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REPORT
—OF THE—
ONTARIO COMMISSION
—ON THE—
DEHORNING OF CATTLE.

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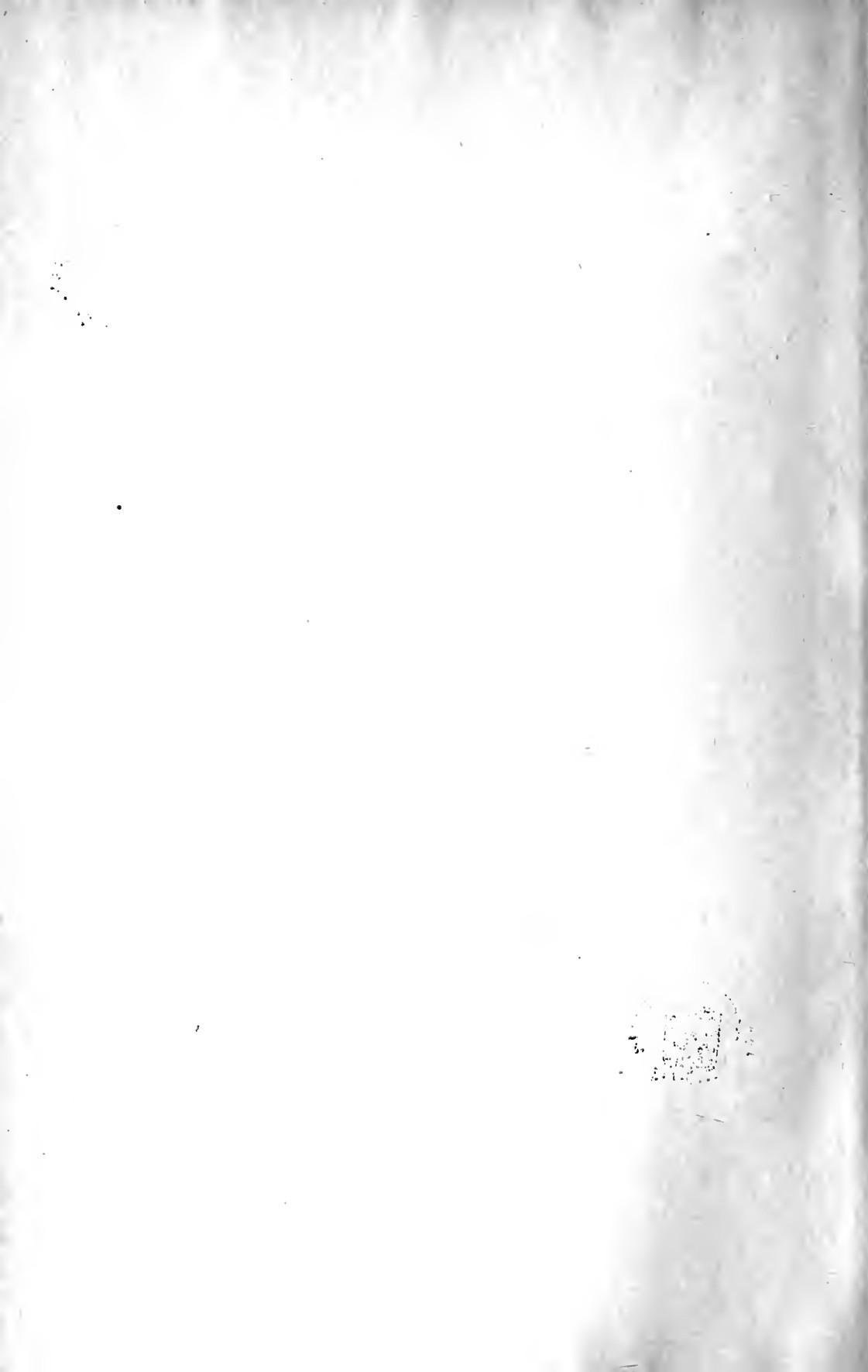


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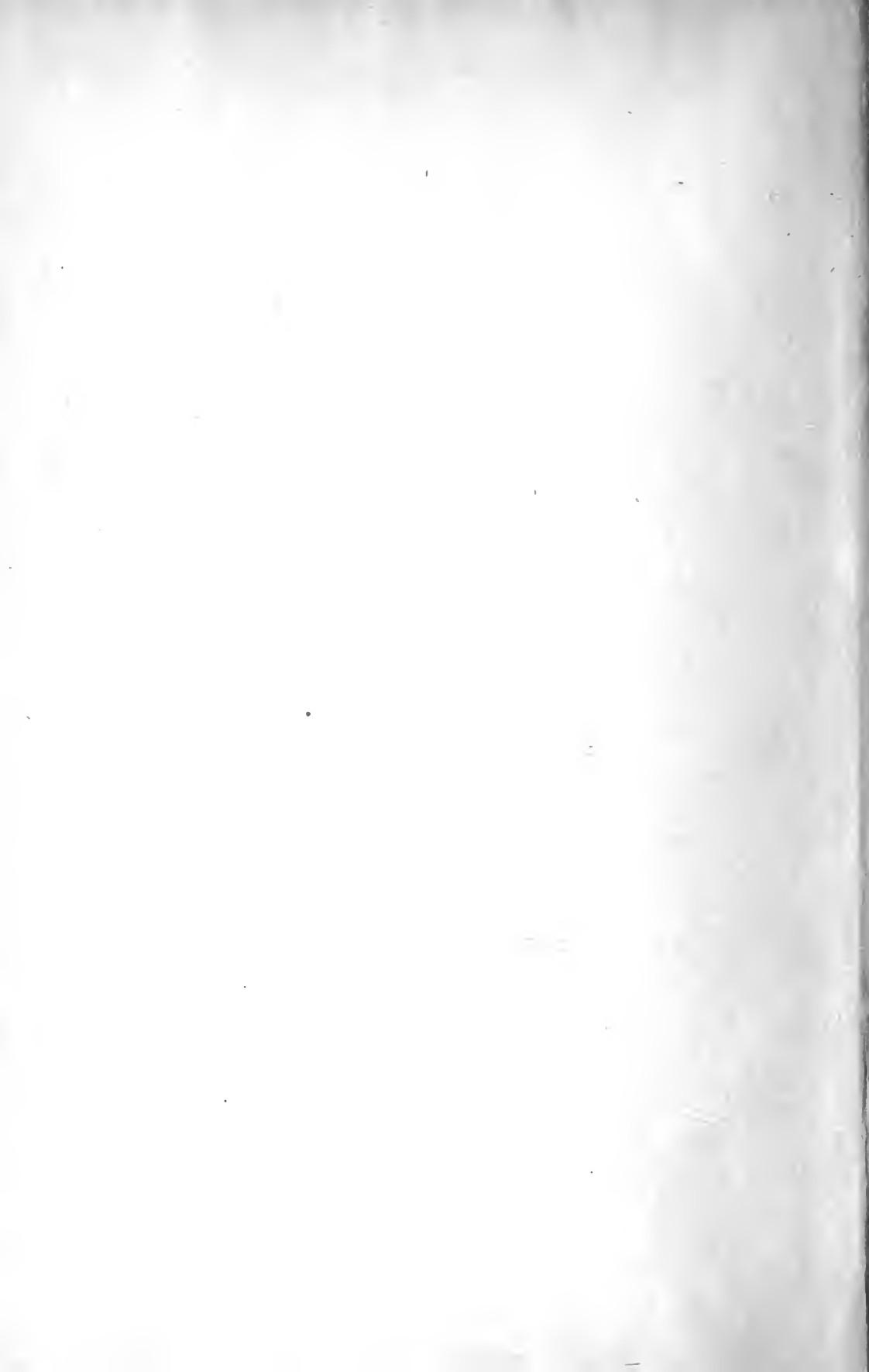
DEHORNING OF CATTLE.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



TORONTO:

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1892.



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COMMISSIONERS.

Hon. CHARLES DRURY, Farmer, Crown Hill.
ANDREW SMITH, Veterinarian, Toronto.
RICHARD GIBSON, Breeder, Delaware.
D. M. MACPHERSON, Dairyman, Lancaster.
HENRY GLENDINNING, Farmer, Manilla.
J. J. KELSO, Journalist, Toronto.

COMMISSION.—“To make full enquiry into and report with all reasonable speed the reasons for and against the practice of Dehorning Cattle recently introduced into this Province, as well by the examination of witnesses as by collecting whatever is accessible of the evidence which has been given by experts or others in the trials which have taken place on the subject in England, Ireland and Scotland and in this Province, the judgments in the cases tried, and any other useful information from any quarter which may be in print or otherwise obtainable.”

TORONTO, November 15th, 1892.

To the Honorable JOHN DRYDEN,
Minister of Agriculture.

SIR,—I have the honor to transmit herewith, to be presented to His Honor the Lieutenant-Governor, the Report of the Ontario Commission on the Dehorning of Cattle.

I have the honor to be, Sir,

Your most obedient servant,

CHARLES DRURY,
Chairman.

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REPORT

OF THE

COMMISSIONERS APPOINTED TO MAKE ENQUIRY INTO THE
PRACTICE OF

DEHORNING CATTLE.

TO THE HONORABLE GEORGE A. KIRKPATRICK,

Lieutenant-Governor of Ontario:

Your Commissioners, appointed on the Ninth day of March, 1892, to consider and report upon the Practice of Dehorning Cattle, desire to state that they have completed their labors and beg to submit herewith the conclusions they have arrived at, together with the evidence received, both orally and by letter, the various legal decisions affecting this question, the reports of investigations conducted by Agricultural Experiment Stations, and other information collected by them.



ORIGIN OF THE PRACTICE IN ONTARIO

The circumstances leading to the appointment of a Commission are as follows:

The practice of dehorning cattle appears from the evidence to have been first introduced into this Province in the year 1888, by Messrs. Kinney and Johnson, farmers, of South Norwich, Oxford county. It was not however, adopted to any great extent until February, 1890, when Mr. Chauncey Smith, a farmer's son residing in the township of Dereham, Oxford county, on returning from a visit to the State of Illinois, where the practice prevailed, set an example by dehorning his father's herd. In a short time this example was followed by Mr. Smith's neighbors, many of whom became warm advocates of the practice.

Considerable controversy arose as to the amount of pain involved in the operation, and in February, 1891, Mr. W. V. Nigh, a farmer of Avon, Middlesex county, was prosecuted before two Justices of the Peace at London on the charge of cruelty. The case was dismissed on the evidence of ten witnesses that the operation was a beneficial one and the suffering of short duration.

The practice continued to extend, and the services of Messrs. Chauncey Smith and W. A. Elliott, who had made a study of the operation, were frequently in demand. Mr. Smith stated in evidence that he had dehorned 250 head, while Mr. Elliott gave the number of cattle he had operated upon to be about 400. The great majority of these operations took place in Oxford, Norfolk and Elgin counties, and although dehorning has been tried experimentally in various parts of the province, the practice is largely confined at present to the district mentioned.

TRIAL AT LONDON.

Acting on behalf of the opponents of the practice, Mr. Charles Hutchinson, Crown Attorney of Middlesex, instituted proceedings in January, 1892, against Messrs. William York, sr., W. A. Elliott and Edward York, charging them with cruelty to animals in having cut off the horns of the cattle of the first named defendant. The case was called at the Interim Sessions, London, on January 6th, before Messrs. Smythe and Lacey, Justices of the Peace for the county of Middlesex. Mr. Hutchinson conducted the prosecution, while Messrs. E. R. Cameron and R. M. C. Toothe appeared for the defence. In view of the importance of the case, the defendants asked that it be tried before a full bench of magistrates, but this was not conceded. Evidence for the prosecution was given by two veterinary surgeons, one medical practitioner, two butchers and five farmers, none of whom had ever seen or performed the operation, but who believed from the structure of the horn that the pain would be very great. For the defence

evidence was given by four veterinary surgeons and three farmers, all of whom had either seen or performed the operation and were convinced that the benefits were great and the suffering not of long duration.

In the course of the trial the defendants expressed dissatisfaction with the manner in which the case was being conducted. They complained that they were not receiving a fair hearing, and that the counsel for the prosecution, whom they regarded as a Crown official, was unduly biased against them.

THE GOVERNMENT APPEALED TO.

Anticipating the result of the trial and acting on the advice of their counsel they withdrew their defence and, with a number of others interested, waited upon the Ontario Government at Toronto, on February 2nd, 1892. The deputation was introduced by Dr. McKay, M.P.P. for South Oxford, and consisted of Messrs. E. B. Brown, J. A. Brown, Benjamin Hopkins, Roger W. Hawkins, W. A. Elliott, Brownsburg; J. C. Dancee, ex-M.P.P., Kingsmill; Henry Jackson, Gladstone; Spencer A. Freeman, Culloden; Francis Leeson, Aylmer; A. N. Grey, Eden, and E. R. Cameron, solicitor, London. They were received by Sir Oliver Mowat, Attorney-General, Hon. John Dryden, Minister of Agriculture and Hon. Messrs. A. S. Hardy, G. W. Ross, J. M. Gibson and Richard Harcourt. Mr. Cameron, speaking for the deputation, laid particular stress upon the alleged partiality of the Justices and the unusual energy shown by the Crown in pressing the charges. He begged the government to interfere to save the defendants from still further costs and asked that a Commission be appointed to investigate the whole question of dehorning cattle, claiming that, in a matter affecting the community at large, where there was so much divergence of expert opinion and no precedent to govern the Courts, it was unfair to place the whole cost of defending a prosecution upon two or three men, in addition to branding them as criminals in the event of conviction, which seemed altogether probable in this case.

In replying to the deputation the Attorney-General pointed out that they were making a most unusual request in asking the Executive to interfere in the administration of justice, an action which he much doubted their jurisdiction to take. Moreover, it would be manifestly improper to express an opinion even on the merits of a case of which only one side had been presented to them. He added, however, that he and his colleagues were much impressed with the arguments advanced in favor of an official inquiry into the whole question of dehorning, and if that request had been preferred before this case had come before the Courts it might have been favorably considered, or if after this matter was concluded they thought fit to make a like application it should have due weight, but in the present position of the case the Executive did not feel justified in taking any action.

THE TRIAL RESUMED.

On the following day, February 3rd, the case was resumed at London, and Mr. Cameron, for the defence, stated that they did not intend to offer any further evidence before the magistrates, but simply have witnesses sign their depositions.

The case was then adjourned for judgment until February 8th, and on that day the magistrates gave the following decision :

First—We find the horns referred to in the information were cut off by W. A. Elliott, assisted by Edward York, ordered and permitted by William York, the owner.

Second—Said horns were cut off close to the head, thus cruelly torturing the cows of William York; and no precautions were taken to lessen the pain of the operation, or to protect the cows afterwards from the consequences of said cruelty.

Third—It does not appear to us from the evidence there was any necessity to cut off the horns of these cows.

Fourth—Neither does it appear that doing so was an advantage to them, but the whole evidence leads to the conclusion that it was a decided disadvantage to each individual cow to have the horns cut off.

Fifth—There being no advantage to the cows to compensate for the torture and suffering endured by them, there should be adequate advantage to the public generally, and here in our opinions the defence has equally failed to make it appear that such is the case.

Sixth—But on the contrary, cutting off the horns of milch cows and other cattle, instead of being an advantage, may be the means whereby fraud may be perpetrated upon the general public. It is shown in the evidence that after a cow is about five years old the horn is the surest means of telling its age, consequently a fraudulent dealer may more easily deceive and palm off upon the purchaser an old animal with its horns cut off, also in judging their breed and milking qualities.

The decision is that each of the defendants be fined \$50 and costs forthwith and in default of payment, one month in the county jail.

Mr. Cameron gave notice that the judgment would be appealed against at the next General Sessions of the Peace.

The proceedings at the trial were given a widespread publicity and an animated newspaper controversy was carried on for several weeks. The greatest difference of opinion was noticeable, the advocates of the practice claiming that it was a positive kindness to the animals, in addition to being a commercial advantage, while many who were opposed to it regarded the operation as one of excruciating torture.

A COMMISSION APPOINTED.

In view of these circumstances, a Commission was issued on March 9 by the Ontario Government to Hon. Charles Drury of Crown Hill, Farmer; Richard Gibson of Delaware, Breeder; D. M. Macpherson of Lancaster, Dairyman; Andrew Smith of Toronto, Veterinarian, Henry Glendinning of Manilla, Farmer, and J. J. Kelso of Toronto, Journalist, authorizing and requiring them "To obtain the fullest information in reference to the practice recently introduced into this province of dehorning cattle, and to make full enquiry into and report with all reasonable speed the reasons for and against the practice, as well by the

examination of witnesses as by collecting whatever is accessible of the evidence which has been given by experts or others in the trials which have taken place on the subject in England, Ireland and Scotland, and in this province, the judgments in the cases tried and any other useful information from any quarter which may be in print or otherwise obtainable." Hon. Mr. Drury was named as chairman and Mr. Kelso as secretary.

ORGANIZATION.

The first meeting of the Commissioners was held in Toronto on Tuesday, April 19, Hon. Charles Drury presiding and all the members being present. In proceeding with the enquiry it was found that the reasons given for the practice were, that the operation increased the value of the animal to the owner, and that it prevented the cattle from inflicting suffering upon each other. The ground of opposition was, briefly, that the pain inflicted in the operation was excessive and out of proportion to the benefits sought to be attained.

It was decided to hold meetings at central points in the Province where dehorning had taken place, to issue a circular letter to the Directors of the various United States Agricultural Experiment Stations and others having a knowledge of the question, and to collect the various legal decisions affecting the practice given in Great Britain and elsewhere, together with all other available information likely to be useful in arriving at a conclusion.

SCOPE OF THE ENQUIRY.

In the examination of witnesses the Commissioners sought to ascertain what commercial advantages accrued from the operation; what were the humane considerations as shown by the conduct of the animals towards each other before and after the operation; the amount of pain inflicted by the operation as judged by the anatomy of the part, the actions of the animal during and following the operation, and the probable duration of the suffering; the effect upon the general condition as evidenced in the flow of milk, loss of appetite or weight or undue rise of temperature; the possibility of fraud as to age when the horns were removed; the extent to which knobbing or tipping the horns was serviceable as a preventive of goring; the best age, the proper season and the most suitable instruments for the operation if it should be permitted; the relative advantages of taking the horns off when developed, preventing their growth by means of caustic at two weeks old, or cutting out the embryo horn at the age of a month or six weeks—in fact the Commissioners endeavored to elicit information on every phase of the question.

MEETINGS HELD.

For convenient reference the following summary might be given of the meetings held by the Commission. The evidence of witnesses will be found in the appendix to this report:

Toronto, April 20.—The Commissioners, on the invitation of Dr. Smith, visited the Ontario Veterinary College at 10 o'clock and examined the anatomy of the horn. At 11 o'clock the members returned to the Parliament Buildings and received evidence from the following gentlemen :

Ex.-Ald. Garrett Franklin, Cattle Exporter.

A. J. Thompson, Cattle Exporter.

W. W. Hodgson, Lessee, Toronto Cattle Market.

It was decided to hold the next meeting at Tilsonburg on Tuesday, May 10, and to advertise in the local papers that all parties opposed to or in favor of the practice would be given a hearing.

Tilsonburg, May 10.—The Commission met in the Town Hall, Tilsonburg, at 2.30 p.m., when the following came forward and gave evidence in favor of the practice :

Thomas Rutherford, Farmer, Dereham Township.

Oliver Dorland, Farmer, Dereham Township.

James F. Cohoe, Farmer, Middleton Township.

Isaiah W. Elliott, Farmer, Dereham Township.

Frank E. Stover Dairyman, North Norwich Township.

Wm. Shepherd, Farmer, Middleton Township.

Willoughby Rosehart, Farmer, South Norwich Township.

L. A. Brown, Veterinary Surgeon, Aylmer.

Tilsonburg, May 11. The Commissioners met at 8.30 a.m. and took conveyances for a drive to surrounding farms in Oxford county where cattle had been dehorned. Hon. John Dryden, Minister of Agriculture, who had arrived the previous evening, accompanied the Commissioners, and Mr. W. A. Elliott acted as guide. The farms visited were, Messrs. A. L. Scott's, Middleton ; and D. T. Smith's, Thomas Rutherford's, Edward York's and Roger Hawkins', all in the township of Dereham. At each of these places all the cattle were found to have been dehorned, and the owners declared themselves as quite satisfied that the animals, both in behavior and general condition, were better off than before.

At 2.30 the same afternoon, at Edward York's farm, Brownsville, the Commissioners witnessed the operation of dehorning performed on six animals by W. A. Elliott, assisted by Edward York and a farm hand. The first animal operated upon was a two-year-old bull. It was placed in an ordinary stanchion in the stable, and its head firmly secured with a rope passed around the neck and nose and drawn tight by means of a tackle (three pulleys) in the hands of Mr. York. The assistant held the head to a block to secure additional steadiness, and when

one horn was off, quickly turned the other side for the convenience of the operator. Mr. Elliott used a fine tenon saw, eleven teeth to the inch, well sharpened and oiled, and removed the horns in an average time of $5\frac{1}{2}$ to 6 seconds for each horn, the whole operation occupying about two minutes. Other animals operated upon were a two-year-old heifer, a six-year-old cow, an eleven-year-old cow and two aged cows. After the operation the cattle were turned into the yard in order that the Commissioners might observe their movements. While there was no doubt considerable pain during the actual sawing, the only evidence of it observable was a flinching of the eyes and a contraction of the muscles of the body. In no case was there any moaning or unsteadiness of movement, and on regaining their liberty the animals walked out and proceeded to eat hay and turnips, giving no great indication of suffering. In the case of the bull there was considerable bleeding for some time afterwards, but from the older animals hardly a spoonful of blood escaped. The veterinary surgeons present, Drs. Brady and Brown, were requested to make a note of the temperature of each animal and they stated that there was no appreciable difference as a result of the operation.

In order to illustrate the ease with which dehorned cattle could be fed, Mr. York turned sixteen animals into an open shed and placed some feed in a trough running along one side of the building. All the cattle crowded good-naturedly in, each getting its fair share of food, without any of the unruliness so often complained of in the case of horned cattle.

The Commissioners also visited the farm of Mr. Roger Hawkins, a short distance away, where they witnessed eighteen dehorned cattle drinking at one time from a water tank about seven feet in diameter, the whole herd being watered in ten to fifteen minutes.

Returning to Mr. York's office the Commission held a meeting and received evidence from the following farmers, all favorable to the practice:

Spence A. Freeman, Culloden.
 Francis Leeson, Malahide.
 John Fulton, Dereham.
 John H. Reed, Dereham.
 Andrew L. Scott, Middleton.
 Chauncey Smith, Dereham.

Tilsonburg, May 12. The Commission resumed the hearing of evidence in the Tilsonburg Town Hall when the following witnesses were heard:

Benjamin Hopkins, Dereham township.
 Edwin D. Tillson, Tilsonburg.
 Charles Bodwell, Tilsonburg.
 Albert Derrough, Tilsonburg.
 John Sheahan, North Norwich.
 Thomas Pronse, Dereham.
 Enoch B. Brown, Dereham.
 Louis Bate, Houghton.
 Hiram B. Kinney, South Norwich.

Daniel T. Smith, Dereham.
 Henry Helinka, Brownsville.
 Alexander Lapier, Bayham township.
 Roger W. Hawkins, Dereham.
 Ira Harris, Dereham.
 William Brady, V.S., Tilsonburg.

With the exception of Messrs. Tillson and Bodwell, all the witnesses were strongly in favor of the practice.

Harrietsville, May 13. The Commission met at Harrietsville on Friday morning and after a brief visit to William York's farm, where some forty de-horned dairy cows were seen, a meeting was held in the Harrietsville hall. Evidence was given by the following farmers:

Edward York, Dereham township.
 Henry Jackson, North Dorchester.
 Richard Tookey, M.P.P., Harrietsville.
 James C. Dance, ex-M.P.P., South Dorchester.
 William V. Nigh, Avon.
 James Rouse, Dorchester.
 Robert Facey, Harrietsville.
 Joseph Franks, Dorchester.
 Benjamin Cook, Avon.
 John C. Lawr, Dorchester.
 William McCredie, South Dorchester.
 Jacob Keesler, South Dorchester.
 R. C. McKinney, Aylmer.
 John M. O'Neill, South Dorchester.
 James Meikle, South Dorchester.
 William Shackelton, Harietsville.

All were in favor of the practice except Messrs. Cook and Lawr.

London, June 1. The Commission opened its enquiries at London on Wednesday afternoon, the meeting being held in the County Court House. The following gave evidence:

John Geary, London township.
 Chas. S. Tamlin, V.S., London.
 W. A. Elliott, Dereham township.
 Levi Fletcher, Lambeth.
 John Dicey, White Oak.
 William S. York, Dorchester.
 William Dicey, White Oak.

All were in favor of the practice with the exception of Dr. Tamlin.

London, June 2. The hearing of evidence was resumed and the following testified:

Benjamin Cook, Avon.
 T. V. Hutchinson, M.D., London.
 Lorenzo Stevens, London East.
 James Day, North Oxford.
 Henry Golding, Thamesford.
 James H. Wilson, V.S., London.
 Edward York, Dereham.
 Caleb H. Millson, White Oak.
 William H. York, Dorchester.
 Stephen York, South Dorchester.

Of these, the first six witnesses were opposed to the practice.

London, June 3. On resuming Friday morning, Mr. Charles Hutchinson, Crown-Attorney for the county of Middlesex, was examined and a deputation was received from the London Humane Society, consisting of Rev. Dean Innes, Rev. Canon Davis, President Perrin and Mr. Talbot MacBeth.

Toronto, June 14. The Commission met at the Rossin House, Toronto, at 3 o'clock, and heard a deputation from the Toronto Humane Society, consisting of Messrs. S. G. Wood, W. A. Sims, Mervyn Mackenzie, George Taunt and Dr. McCausland. Evidence was also received from—

Bertram Spencer, M.D., Toronto.
Joshua Ingham, Cattle Buyer, Toronto.
Henry Wickson, Butcher, Toronto.

All were opposed to the practice.

Toronto, June 15. On Wednesday the Commission received evidence from the following gentlemen:

John Mallon, Butcher, Toronto.
William Booth, Butcher, Toronto.
Sylvester Halligan, Cattle Dealer, Toronto.
Ald. John Hallam, Hide Merchant, Toronto.
David Walker, Caretaker, Cattle Market, Toronto.
William Kelly, Butcher, Toronto.
William Mole, V.S., Hamilton.
John Willis, Humane Officer, Toronto.
E. A. Thompson, Inspector of Hides, Toronto.

Of the above Messrs. Hallam, Mole and Willis were opposed to the practice.

Toronto, June 16. The following witnesses were heard:

Cornelius Flanagan, Cattle Buyer, Toronto.
T. A. Milne, V.S., Toronto.
William Crealock, Wholesale Butcher, Toronto.
Thomas Mc 'ausland, M.D., Toronto.
S. R. Wickett, Tanner, Toronto.
Alfred O. Beardmore, Tanner, Toronto.
William Levack, Wholesale Butcher, Toronto.
George Taunt, Toronto.

Of these, Messrs. Milne, McCausland and Taunt were opposed to the practice.

Toronto, June 17. In view of statements made by witnesses, the Commissioners visited the Toronto cattle market for the purpose of observing the extent of the injuries inflicted by horns in transit and in the yards. The market was unusually large, about 1,200 cattle having arrived during the previous night. Two hours were spent in examining the various bunches of cattle, and many animals were found to be suffering from the attacks of their fellows. Several cases of broken horn were also seen.

Ottawa, July 6. The Commission met in Ottawa on Wednesday evening and made arrangements to visit the Dominion Experimental Farm on the following morning.

Ottawa, July 7. The Commissioners drove to the Experimental Farm, where they were met by Prof. Jas. W. Robertson, Dominion Dairy Commissioner, and escorted over the premises. Fourteen steers that had been dehorned in the spring and last fall were seen, after which a meeting was held in the farm office and the evidence of Prof. Robertson and Robert W. Elliott, herdsman, was received.

In the afternoon a meeting was held in the Russell House, Ottawa, when evidence was given by W. C. Edwards, Esq., M.P., and Senator Read, of Belleville. On the following day several of the Commissioners visited Mr. Edward's farm at Rockland and inspected his system of feeding dehorned steers loose in large stables, with a view to saving manure in the best possible condition.

In deference to the wishes of Mr. Hutchinson and Mr. Benjamin Cook, the Commission decided to hold a meeting at Ingersoll on Thursday, July 20, and to formally summon a number of farmers known to have spoken against the practice, but who were unwilling to testify voluntarily.

Ingersoll, July 20. The Commission held a meeting in the Town Hall and received evidence from the following :

William Stirton, Dereham township.
John Mitchell, Dereham township.
Murray Smith, North Dorchester.
Foster Wilson, Dereham township.
Adam Gordon, North Oxford.
James Ruddick, North Oxford.
Joseph Cawthorp, Thamesford.
Thomas Hogg, North Oxford.
Wm. W. Sutherland, East Nissouri.
Edwin Casswell, Ingersoll.

With the exception of Mr. Sutherland, all were opposed to the practice.

THE EVIDENCE.

Evidence was received from representatives of all the interests affected by the practice, including general farmers, dairymen, drovers, exporters, wholesale and retail butchers, cattle market attendants, tanners, hide merchants, veterinary surgeons, medical practitioners and members of Humane Societies,—ninety-eight in all.

Of the farmers examined, nearly 70 in number, all who had either performed or seen the operation performed, with three or four exceptions, were strongly in

favor of it, the majority stating that they were prejudiced against it on the grounds of cruelty until they gained a practical knowledge of it. Of the farmers opposed to the practice not more than three or four had ever seen the operation but they thought it cruel and unnecessary.

Evidence as to the loss caused by animals using their horns upon each other was given by cattle buyers and others in frequent attendance at the cattle market, and also by butchers and tanners.

Among veterinary surgeons a considerable conflict of opinion was found to exist. As in the case of the farmers those who had seen the operation and observed its effects were in favor of it, while those who had not seen it were opposed to it.

Indeed, as regards all the evidence received by the Commission, it might almost be given as the rule that where the operation was properly and skilfully performed those witnessing it, however prejudiced before, became converts to it, while the great bulk of the opposition came from parties not acquainted with the operation, and who entertained exaggerated ideas as to its severity.

In no case were witnesses able to refer to an instance where a farmer was dissatisfied with the results or willing to give up his right to continue the practice, after having performed the operation.

In addition to the evidence as to the amount of pain involved in the operation, much evidence was received as to the commercial advantages accruing from the operation, and emphasising the point that a great deal of suffering is prevented by the removal of the horns.

No fault could be found with the character and bearing of those who testified in favor of the practice. They were men who would readily be selected as representative of the best class of farmers, and even those opposed to them on this question willingly testified to their respectability and good standing in the community.

A great deal of opposition to the practice was met with from members of Humane Societies and others who believed that the operation was purely for commercial considerations and therefore unjustifiable, and that the pain inflicted was excessive. These witnesses were strengthened in their belief by the judgment of Lord Chief Justice Coleridge and Mr. Justice Hawkins, a verbatim report of that adverse decision having been printed and distributed by the Royal Society for the Prevention of Cruelty to Animals.

ANATOMY OF THE HORN.

From the various authorities on the subject, the following information has been gathered concerning the anatomy of the horn :

The outer shell or horn proper is a continuation of the skin or hide, and under the microscope has the appearance of a bundle of pressed hair. It is moulded upon a central core of bone, which projects from the frontal bone. In the young calf the nucleus of bone inside the rudimentary horn moves freely on the bone of the forehead, adhering and hardening as age advances. This central bone becomes hollowed out when it passes a certain age, and it is then lined by a delicate membrane, which is the continuation of the membrane that lines the chambers of the nose. The cavity in the horn core is a part of the system of air chambers which serve to lighten the head without altering its size or shape. When the horn is removed the brain is still protected from the air by an inner plate of bone. The bone of the horn has an exceedingly rough, uneven surface, which holds firmly the fibrous and vascular membrane, known as the matrix of the horn shell. The blood required for the nourishment of the bone is furnished by capillary vessels passing into the bone from the deep layer of the periosteum, and the nerve trunk enters the horn on the inner front near the eye and thence branches off into numerous nerve filaments. There is but little sensibility in the bone, and as there is none in the horn, it follows that it is only in the part between the bone and the horn that any considerable pain would be caused by an operation upon a healthy animal. No proof can be given of the capacity for suffering contained in the horn nerves. Some veterinarians claim that from the nature of its function and the fact that there is no active process of waste and repair going on, the horn is not likely to be endowed with a great degree of nervous sensibility; others again emphatically contend that the part is highly sensitive and that the operation is accompanied by the keenest pain that could well be inflicted. The form and length of the horn varies in different animals, and there is also a considerable variation as to the size of the cavity in the horn.

A MICROSCOPIC EXAMINATION.

A microscopic examination was made by H. A. McCallum, M.D., Professor Western University, London, Ont., at the request of Mr. E. R. Cameron, of London. His report reads :

DEAR SIR :—I made a microscopic examination, as requested, of the cow's horn. It is comparatively nerveless. One bundle enters in front but I do not believe its functions to be *common sensation or pain*, but rather nutrition, locality, temperature and pressure sense.

The cutting of bone is a comparatively painless operation and I cannot think cows suffer during the dehorning operation.

With regard to dressing the bone after the operation, I should protest against any. The blind spaces would be filled by blood immediately after the cutting, and healing here by "blood

clot" would be the most scientific method, (the method followed by Prof. Halstead at Johns Hopkins' hospital, Baltimore). If dressing were applied it would prevent free drainage in the case of formation of pus and endanger the cow's life as well as cause great suffering. It would be impossible to keep the wound aseptic by dressing and antiseptic ointments, hence *no dressing* but free drainage would be best.

Yours truly,

LONDON, June 30, 1892.

H. A. McCALLUM, M.D.

REASONS FOR THE PRACTICE.

It may reasonably be supposed that such a practice would not meet with hearty endorsement from intelligent agriculturists unless there were important and undoubted advantages arising from it. Among the chief arguments advanced by witnesses in favor of dehorning were the following:—

Dehorned cattle are quieter and thrive better in consequence; they are more easily handled; are less dangerous to man and to each other; are less liable to suffering both on the farm and in transit; their value is increased.

QUIETNESS.

On the first point there is no clashing of opinion, all the evidence going to show that the operation subdues the animal, removes a restless or turbulent disposition, and replaces viciousness with docility and tractability. This is most marked in the case of bulls. While previous to dehorning the lives of attendants were in constant jeopardy, after the operation the animals were handled with ease and safety. A glance through the evidence of farmers also shows a change of conduct in the herd, particularly when passing through lanes and gates, and at the watering trough. Instead of the chasing, goring and butting that formerly prevailed, and the single file, with bosses in rotation, the animals walk along quietly in a body like a flock of sheep, and having no more desire to molest than they have to be molested. At the watering trough, instead of one or two standing guard and preventing the approach of the weaker cattle, all crowd in together and proceed at once to satisfy their thirst. The Commissioners had an opportunity of judging of this at Mr. Roger Hawkins' farm, where eighteen animals drank at once from a tank seven feet in diameter. Such altered conditions were claimed to be advantageous alike to dairying and beefing stock, the sense of quiet and security enabling the cattle to better assimilate their food and thus give a larger and richer yield of milk as well as show rapid improvement in putting on flesh. W. C. Edwards, Esq., M.P., who dehorned 30 steers as an experiment and carefully noted the results, says on this point: "The effect was to make them as quiet as a flock of sheep. It took away all their evil nature and made them settle down to make beef."

MORE EASILY HANDLED AND LESS DANGEROUS.

Evidence was submitted to show that hornless cattle could be more easily handled, and at a considerable saving of labor. In feeding and watering, driving to and from pasture, shipping by rail, and handling at the markets, the change of conduct rendered the work of caring for the animals lighter than before, and fewer men were required to look after them. It was also pointed out that the removal of the horns does away with an element of danger to which farmers and their families have always been exposed. The possession of horns by domestic cattle has always been, more or less, a source of dread, suffering and death to mankind, and many witnesses spoke of injuries and narrow escapes they had sustained, as well as the constant liability of their children to such attacks. Much stress was also laid upon the fact that cattle frequently inflict serious injury upon each other, and that this danger no longer exists when the horns are removed. Especially in the markets and station yards is the vindictive spirit of cattle noticeable, owing largely to the fact that the animals are strangers to each other, and have been rendered irritable by long journeys and privation.

LESS LIABLE TO SUFFERING ON THE FARM AND IN TRANSIT.

If it is true that there is considerable commercial loss involved in cattle hooking and chasing each other, there must, in the same act, be a great amount of pain inflicted. Many farmers testified as to cases of prolonged suffering occurring in this way, and the consensus of opinion was—in the case of dairy cows more especially—that the aggregate of suffering in an average lifetime was far greater than that inflicted in the removal of the horns. Men like Messrs. W. W. Hodgson, William Levack and Sylvester Halligan, in constant attendance at the cattle market, were also strongly of opinion that even in the shorter life of cattle raised for beef, more pain was caused by the horns than would be inflicted in their removal.

THEIR VALUE IS INCREASED.

A considerable variety of evidence was received tending to show that the commercial value of the animal is greatly increased by the operation. It is claimed that the dehorned and therefore quiet animal sooner reaches a prime condition than a beast that is habitually wild and unsettled, either by its own possession of horns or the proximity of other horns. It is also more likely to be free from bruises at the time of sale, and would, in consequence, command greater favor with the butcher. This increase in value was estimated by witnesses at from \$5 to \$8 per head. Tanners also stated in evidence that the damage caused to hides by hooking was from 20 to 25 per cent., and this is avoided by the removal of the horns. In feeding steers for export the benefit was claimed to be

great, as dehorned cattle could be fed loose in open sheds, they required less space, less food and less labor, while at the same time the manure could be saved to greater advantage.

DAIRY COWS.

Dairymen further claimed that dehorning was a valuable expedient in the care and management of dairy cows, and experiments made at the agricultural stations, together with the experience of farmers, indicate that the milk yield is not diminished for more than one or two milkings after the operation, while it was pointed out that the increased quiet secured in the herd resulted in a larger and richer flow. In feeding, watering and stabling there is economy of food and labor, and much less liability of accidents. Many of the witnesses who advocated the practice are prominently identified with the cheese industry of Oxford county, and after one and two years' experience, they stated, without any reservation, their confident belief that the advantages attainable by the practice are vastly out of proportion to the pain inflicted. Two of the witnesses claimed that, from a financial standpoint, the absence of horns from their herd was worth \$50 per year, while the president of the Western Ontario Dairymen's Association stated that if he were buying 100 dairy cows he would gladly give \$200 more for them without than with horns. The fact, also, that at several of the agricultural experiment stations, all dairy cows are dehorned must be taken as evidence that the advantages are regarded as important by the scientific men of the profession.

EVIDENCE AS TO INCREASED VALUE.

From the evidence received the following statements might be quoted as indicating, to some extent, the commercial interests involved:

Jas. W. Robertson, Dominion Dairy Commissioner: "The additional profit in feeding steers for market is considerable, owing to economy of labor. The increased gain might range from \$8 up, owing to extra quiet, saving in labor, feeding in sheds and so on."

W. C. Edwards M.P.: "When the steer-feeders of Ontario get into the way of it, and feed loose in the buildings such as we have erected for the purpose, it will be millions of dollars annually in the pockets of our farmers, in the saving of manure and the economy of feed and labor."

William H. York, farmer in Middlesex county: "Rather than have the horns back again on my dairy cows I would be willing to pay an annual tax of \$50." Stephen York, in endorsing this statement, adds: "I am quite satisfied that the benefit is worth that. I have lost about \$10 a year for the last twenty years in bloody milk, and I believe that most of this loss was caused by horns."

William Levack, Toronto, a wholesale butcher, handling about 5,000 head of cattle per year for the local trade: "We have a great deal of loss from bruises and damaged hides. Very often we have to cut away the flanks and briskets altogether. The injured part swells up, and the blood gathers there, making it into a jelly. My loss in this way is from \$1,000 to \$1,500 every year."

William Crealock, Toronto, also a wholesale butcher: "I am in favor of dehorning from a business standpoint, because the weaker animals get bruised, sometimes to the extent of \$10 a bullock. There is always one or more injured in every carload, with an average loss of \$10 to \$15."

Cornelius Flanagan, Toronto, an extensive cattle exporter: "I would prefer cattle without horns on account of their freedom from bruises. The injury in this way is about \$5 per carload."

Edward A. Thompson, hide inspector, Toronto : "I should say that out of 50,000 hides handled by my office annually the number damaged by horns would be 2,500, and at 50c. per hide the total loss per year would be about \$1,250."

Samuel R. Wickett, tanner, Toronto : "We handle 50 hides a day, and I think there is fully 25 per cent. that show more or less damage from horns. I would say that the actual depreciation in the value of the 200 hides we handle every week would be about \$45." Mr. Alfred Beardmore said that he thought Mr. Wickett's estimate was about right, and that the loss was a serious one to the tanners of the province.

AMOUNT OF SUFFERING.

With regard to the amount of suffering involved in the operation, farmers and others accustomed to the care of cattle, who had either seen the operation of dehorning or had performed it themselves, testified that the animals did not apparently suffer much pain at the time or afterwards, that they manifested no symptoms of shock, but partook of water and food immediately, and that the secretion of milk was not diminished or changed for more than a day. Veterinary surgeons and medical practitioners, also, who had made a study of the operation, gave it as their opinion that the pain is practically over after the operation, and that the discharge of matter from the heel, referred to by so many witnesses, was not necessarily indicative of continued suffering. On this point William Brady, V. S., Tilsonburg, says: "I have seen a mucous discharge, but that is a discharge that nature provides for the healing of the wound. There was no pus discharge in any I have seen, but in one or two cases after the scab had formed over the parts, I found, upon raising the scab, a very small quantity of pus lodged underneath it. A mucous discharge is no sign of pain, even if it were running down the face; it is simply the exudation of matter that is closing up the part."

James Clark, F.R.C.V.S., Scotland : "A great deal of stress and alarm is put on the fact that we have sometimes a discharge of matter from the frontal sinuses. I admit that it is better to avoid this, if at all possible, and if attention is paid to the comfort of animals it will be found that the percentage of these cases will be very small. In every day practice the presence of matter is of little consequence; it does cause discomfort and retard the healing process, but does not necessarily interfere with a good and successful recovery."

On the other hand, a number of veterinary surgeons, some of them eminent in their profession, looking entirely at the anatomy of the part, have asserted in positive terms that the operation must be one of excruciating pain, and their evidence, given in various legal cases affecting the practice, has been a strong factor in arousing opposition. In the English trial, Prof. Walley, Principal of the Royal Dick's Veterinary College, Edinburgh, in the course of his evidence said: "Inflammation must arise where the sinus has been cut through. The ordinary bone cannot be said to be sensitive, for you would not feel the saw going through your leg, but you would when it went through the tissues. It is the sensitive tissues in the horn that, when cut through, causes the intense pain to

the animals. It is like cutting through the quick of your finger. There would be at the time extreme pain, and for many days after, a fortnight, and probably longer in some cases." Prof. McCall, Principal of the Glasgow Veterinary College, Prof. Pritchard, President of the Royal College of Veterinary Surgeons, London, Prof. Cox, a former president of the college, and a number of others, stated that they had heard and agreed with the views expressed by Prof. Walley.

Such testimony was strongly emphasised by witnesses before the Commission, who, without professing any expert knowledge of the question, were fully convinced that the practice was a cruel and barbarous one.

BROKEN HORN.

A large number of witnesses judged from having seen a broken horn that the suffering in dehorning would be proportionate, but other witnesses who had seen both the operation and the horn broken accidentally, claimed that several horns could be removed with the saw with less pain than that caused by one broken horn. The force necessary to break a horn must give a severe wrench to the head, resulting in some instances in the fracture of the skull, while at the same time a large surface of nerve tissue is exposed to the air, and the lacerated condition of the wound produces great irritation.

BLOW UPON THE HORN.

The fact that a blow upon the horn causes great pain to the animal was also used as an argument against dehorning. In this case, however, the pain is caused more by the shock given to the head through the leverage of the horn. H. H. Haaf, of Chicago, writing on this subject, says:—

"If the animal sustains a charge or blow on the head or horns, or makes a charge with one horn, the second story, the cross bone and the partitions or walls between the frontal sinuses and the parietal bone make the head an almost perfect catapult or battering ram. Nothing in the shape of flesh and blood can withstand the onset, but it is a horse of another color when flesh and blood in the shape of a smart active boy hurls a stone or chunk of wood and strikes the horn. In this case the springing of the parts at the suture produces intense agony, not so much by knocking off the shell or bone horn as by communication to the brain caused by the unequal blow on the one side and the suddenness of the shock."

THE HUMANE ASPECT.

While many of the Humane Societies have expressed strong opposition to the practice as being cruel and unnecessary, it is a remarkable fact that all who favor it claim that it is a humane operation and in the best interests of the animals themselves. The following are only a few of the statements made as to the humanity of the practice, and coming as they do from men occupying important public positions they are entitled to careful consideration:

James W. Robertson, Dominion Dairy Commissioner: "In taking off the horns a great deal of suffering, otherwise spread over a period of years, is reduced to a sensation of pain for a

moment or two. I believe there is greater pain from hooking than from dehorning. Then an animal often suffers keenly from fear of being hocked. I have known them to bellow and show great distress although there was no actual injury inflicted on the body."

W. C. Edwards, M.P.: "I believe it is more humane to cut the horns off a lot of steers, and allow them to feed in their natural way, loose, than to tie up an animal on a hard floor and keep it confined in a narrow stall for six months."

Hon. Robert Read, Member of the Dominion Senate: "I have looked into the dehorning question pretty carefully and I believe it would be humane to the cattle to take the horns off."

I. P. Roberts, Director of the Cornell University Agricultural Experiment Station: "If by hurting one animal for a few moments we can prevent it from inflicting many severe and painful wounds and hurts on many other animals for many years I feel that it is an act of humanity to take the horns from the offending animals."

Walter J. Quick, Director of the Colorado State Agricultural College: "The main advantage of dehorning is the prevention of cruelty among animals. I consider that the suffering inflicted by the operation is justified by the results, outside of any financial consideration."

Frank E. Emery, Agriculturist of the North Carolina Station: "It is a humane operation between beast and beast, that is, the pain inflicted on a domineering cow or steer seems less than is produced by such a beast in a single day on the quieter ones of a herd with the use of the horns."

Clinton D. Smith, Director of the Minnesota Experiment Station: "The pain attendant upon the operation seems to cease within a very few moments after the operation."

S. M. Tracy, Director of the Mississippi Station: "There seems to be no suffering afterwards, and there is less danger from injury to each other."

C. S. Plumb, Director of the Indiana Station: "In some cases animals struggle or bellow but more from fright than from pain. I do not believe, from observations taken under the supervision of a trained veterinarian, that there is any considerable pain."

F. A. Gulley, Director of the Arizona Station: "The suffering inflicted by the operation is so slight that I do not think it worth considering. I not only believe the operation to be a humane one, but I think it not humane to allow animals to use their horns to punch and gore each other during their natural lives."

J. A. Myers, Director of the West Virginia Station: "There is a slight fever in some cases, but from a humane standpoint I think it (the operation) an advantage."

Tait Butler, Veterinarian of the Mississippi Agricultural Station: "The operation cannot be performed without producing considerable pain for the short period of from ten to twenty seconds; after that space of time the pain is certainly slight."

W. A. Henry, Director of the Wisconsin Station: "I am confident that the act of dehorning is humane and beneficent, and can prove it by the action of our herd to any reasonable person."

Joseph Hughes, M.R.C.V.S., Professor in the Chicago Veterinary College: "I favor the practice from a perfectly humanitarian standpoint. It prevents the goring of animal by animal, and does away with the bullies."

W. A. Harris, stockbreeder, Kansas: "The pain is evidently acute during the actual operation, but I think the suffering is greatly aggravated by our imagination."

Albert E. Menke, Director of Arkansas Station: "The operation must be considered painful, but there is no evidence that the pain is excessive after the operation is over."

Prof. Baird, of the Royal Dick's College, Scotland: "It is much better that all animals should by dehorning suffer a little for a day or two, than that the weaker should be constantly subjected to torture by their stronger neighbors."

Thomas Greaves, F.R.C.V.S., Manchester, Eng.: "It is my firm opinion that the prevailing notion that the operation is attended with great pain is exaggerated, and that much of this supposition has its base in sentiment."

SUGGESTED ALTERNATIVES.

Many persons opposed to the practice of dehorning have claimed that knobbing or tipping the horns of viciously-disposed animals is sufficient to meet all reasonable requirements. "Knobbing" is the placing of brass or wooden knobs on the points of the horns, while "tipping" is cutting off the sharp points to the extent of an inch or an inch and a half.

The evidence shows that these precautions may prevent the more serious form of injury, but they do not, it was generally admitted, change the disposition of the animal or prevent it from doing damage. Some views expressed along this line were as follows:

Robert Gillett, farmer, Norfolk, England: "I have tipped horns for the last thirty or forty years. I never found any benefit from it." Q. Then why did you continue it so long? A. It was our custom. Q. By tipping with a flat end, or a knob that makes the blow glance off, were they not prevented from injuring one another? A. Not a bit, sir.

Robin Cook, farmer, Norfolk, England: "I tried tipping ten or twelve times, and it made no difference to the animal. They rush at one another just the same. I even tried it after I found out it was no good."

(The above was given in evidence in the English case of *Ford v. Wiley*.)

Spencer A. Freeman, farmer, Culloden, Ont. (Before the Commission): "I am in favor of dehorning. I commenced at first with cutting off the tips of the horns; this was not altogether successful as there was the same tendency to knock each other about. I tried again by taking a little more off the horn, but found they could hook as much as ever in the course of a year or so, and I then decided to have the horn taken off. I had a colt that was ripped up and I attributed it to the cattle, even after the horns had been tipped. I am satisfied there is more pain in taking off the tips of the horns of a two-year old to reach the quick than there is in dehorning."

George W. Curtis, Director of the Texas Agricultural Station, says: "I have tried knobbing and tipping and consider both practically worthless with vicious animals."

Frank E. Stover, dairyman, North Norwich, Oxford county: "I have bought cows with wooden knobs on; of course they could not do as much harm, but I do not think the disposition was in any way changed."

Isiah W. Elliott, farmer, Oxford county: "I tried putting knobs on the horns of twenty or thirty cows. It prevented them from tearing, but did not prevent them from butting or hooking."

Frank S. Emery, agriculturist, North Carolina Agricultural Station: "Animals with knobbed horns, while less dangerous, can and do make just as much disturbance in a herd as though no knobs were on them."

DEHORN ONLY VICIOUS ANIMALS.

Again, it was urged that only the vicious should be dehorned and that the quieter animals should be allowed to retain their horns. To this argument, which seems at a first glance to be a reasonable one, all the witnesses favoring the practice raised the objection that it would not meet the case. In every herd they say, there is a master or boss who compels submission on the part of all the others. The removal of one boss, simply means that another takes its place,

while the dehorned animal is at once subjected to general attack. Substantiating this the following, among other opinions, might be referred to :

W. V. Nigh, farmer, Avon, Ont. : "I dehorned a vicious cow, and when I saw how little she suffered and the way in which the others went for her I decided to take the horns off the whole lot."

Joseph Franks, farmer, Dorchester, Ont. : "I bought two dehorned cows, and these two are attacked more than any other in the herd."

Thomas Rutherford, farmer, Delmer, Ont. : "At first the quiet ones were allowed to keep their horns, but these became bossy, and I decided to have all the horns taken off."

PREVENTION OF GROWTH.

A number of witnesses who believe that horns are undesirable, advocated the prevention of their growth by means of chemicals. There are at present two or three chemical preparations on the market which are advertised to prevent the growth of the horn if properly applied, and the information obtained by the Commission seems to indicate that this method is attended by a considerable degree of success.

John Fulton, farmer, Oxford county, says : "I would recommend that the operation be performed on calves by means of caustic ; the best time to apply it is in the first week. There does not seem to be any suffering more than an itching of the part. I tried caustic on eleven calves, some were a good job ; on one or two there were stubs, and on one of the animals one horn was left."

John H. Reed, farmer, Oxford county : "I do not like to dehorn my cows because I am attached to them. I tried the liquid preparation on calves of three days old, but this was only a few days ago, and I could not speak as to the success of the experiment."

L. A. Brown, V.S., Aylmer, Ont. : "I have used potash caustic on about 30 calves three weeks old and under. In some cases it was a success. All that was necessary was to clip the hair from the budding horn and thoroughly apply the caustic. I consider, however, that the best results are secured by removing the horns from the grown animal."

Leslie H. Adams, Farm Superintendent, Wisconsin Agricultural Station, writes : "In advertisements of chemical fluids it is often claimed that the application is painless, but our observations do not coincide with any such statement. The application of a fluid powerful enough to destroy so large a surface as the button on the calf's head must produce a great deal of pain, and the calves show this by nervous movements of the head and attempting to rub the irritated spot."

Prof. H. H. Wing, of the Cornell Agricultural Station, writes : "We have made several trials with stick caustic potash and the indications are that it is going to be the most successful, the most humane, and the easiest method of growing hornless cattle."

Prof. I. P. Roberts, Director of the Cornell Station : "Prevention by means of stick caustic potash is a good thing, but it should be done before the calf is two weeks old."

Walter J. Quick, Director, Colorado Agricultural Station : "I have tried disbudding and prevention of the growth of the horn by means of the chemical dehorner. I consider these methods the proper means of dehorning, as they are comparatively painless."

Clyton D. Smith, Director, Minnesota Experiment Station : "If the use of caustic on calves is effective I should prefer that method."

C. S. Flumb, Director, Indiana Station : "I usually remove the horn by the application of a little caustic potash, just as it appears upon the surface of the skin. In my experience calves do not show any indication of pain, and it would save lots of trouble in the future."

REMOVAL OF THE EMBRYO HORN.

Disbudding, that is, the cutting out of the embryo horn when the calf is from three to seven or eight weeks old, has, by a number of veterinarians and scientific agriculturists, been advocated as preferable to dehorning later on, their impression being that the operation is less painful at an early age. None of the witnesses examined by the Commission had any experience in this direction, but from the collected information the following opinions might be quoted :

Prof. Walley (in the English trial) : "As soon as the small horn comes on the young animal you have only to make an incision and take a knife and remove the core. The horn does not grow again, or if it does it will be very imperfect. The suffering caused is infinitesimal."

Prof. Macqueen, Glasgow Veterinary College : "The operation, if performed at all, should be done on the animal before it is six or eight months old. This prevents the horns growing and the operation is comparatively painless."

Prof. Wallace, Agriculturist of the University of Edinburgh : "The best time to perform the operation is when a well-fed calf is almost a month or six weeks old. The horns are then budding and protruding through the skin. The knife used should go deep enough to remove the whole of the base of the limpet-like horn, and with it a little of the skin all round to make sure that no growth of "sears" should afterwards occur."

James Law, F.R.C.V.S., Cornell University Agricultural Station : "The operation as practiced on the budding horns of a young calf is much less painful."

S. M. Tracy, Director, Mississippi Station : "The best time to operate is when the horn can be felt distinctly, but I have taken them off at all ages."

R. R. Dinwiddie, V.S., Arkansas Station : "Disbudding under three months is preferable, either with the gouge or caustic. There is less pain and the results are as good."

Joseph Hughes, M.R.C.V.S., Chicago Veterinary College : "I think disbudding would be less painful and would meet all requirements."

George W. Curtis, Director, Texas station : "Removing the buttons from calves I do not think any less painful than dehorning. We mind it less, however, for the reason that the animals are smaller and weak, and cannot make so much show of resistance or pain."

H. H. Haaf, Chicago : "The operation of dehorning calves is the most peculiar, the most particular, and the most severe operation in the whole category of dehorning cattle."

James Clark, F.R.C.V.S., Coupar Angus, Scotland : "Calves can be dehorned at two or three months old, but in clumsy hands might be made a more painful operation than it really is in older animals, from the fact that the horn is not properly formed, and a considerable portion of skin necessarily requires to be removed."

Arkansas Experimental Station bulletin, August, 1888 : "The operation on calves is less objectionable and should be preferred to the more serious and painful operation on older animals. It is best performed when the calves are from three to seven or eight weeks old, soon after the horn shows itself above the skin. Removal of the small, movable button of horn is not sufficient to prevent further growth, but part of the soft, spongy bone beneath should also be removed. A circular gouge—the ordinary punch formerly used for cutting gun wads—is the only instrument necessary. By a rotatory movement the skin is cut down to the bone around the base of the horn, and by depressing the hand and slight lateral motion the bone is easily removed for a sufficient depth. The skull wall is, at this age, solid at the base of the horn and very thick, soft osseous tissue filling up the space which afterwards, by absorption, becomes part of the frontal sinns. Bleeding usually ceases spontaneously; if excessive, it may be controlled by cold water or pressure by pad held in place by a bandage. The only after treatment is to keep the part clean by occasional washing with an antiseptic solution, such as carbolic acid, one part to fifty of water. Dehorning, after the fourth or fifth month must be done by the saw, as the horns are then usually too large to admit the use of the gouge."

(Many of the witnesses expressed a fear that the removal of the bone in calfhood would develop in the animal a tendency to bunt, and that if such should prove to be the case many of the advantages of the operation would be lost.)

HORNS IN RELATION TO AGE.

An argument strongly urged against dehorning was that the removal of the horns encouraged fraud as to the age of the animal. With the revolving years the horns of cows and steers acquire a succession of rings, which, after the second year, become permanent and serve as a means of estimating the age. The growth of a new coat of hair is contemporary with the development of an extra thickness of horn, while the cold season corresponds to a period of comparatively interrupted growth. Hence the alternations of rings and grooves that mark the age on the horns from the third year onward.

The removal of the horns, it was claimed, removed all indications of age, and also tended to conceal the natural coarseness of the animal, thus enabling unscrupulous parties to practice deception in disposing of their stock. In answer to this objection, the farmers and cattlemen favoring dehorning, said that while possibly a man buying a few head of cattle each year might be deceived, those accustomed to handling cattle could readily calculate the age by the condition of the teeth and the general appearance. The following might be referred to as representative opinions on this point:

Benjamin Hopkins, dairyman, Oxford county: "I would not think there was any danger from fraud owing to the removal of the horns. In judging an animal I would look at its mouth; it might not be possible to tell its age exactly, but the condition of the teeth is a good indication."

Enoch B. Brown, farmer, Brownsville, Ont.: "There is no danger of fraud: the teeth are marked like a horse's and you can judge from the general appearance. It is true that the teeth are sometimes affected by the nature of the soil on which the animal pastures, but if the teeth are gone she would not be much use anyway."

Daniel T. Smith, farmer, Dereham, Oxford county: "Anyone accustomed to cattle would not be deceived in the age of an animal that had no horns."

Joshua Ingham, cattle buyer, Toronto: "There would not be much danger from fraud, because if the teeth are good the cow is all right."

Cornelius Flanagan, cattle buyer, Toronto: "I don't think a man who knew his business could be taken in. If you were to take any beast and put its head in a bag, I could tell you about its age from its general appearance."

DEHORNING AS A CUSTOM.

The practice of dehorning cattle seems to have first originated in Ireland about twenty-three years ago, and to have spread from there to Scotland. In both these countries it is extensively carried on at present. In England a number of farmers in the county of Norfolk adopted the practice about the year 1885, and it was carried on there until a decision was given in May, 1889, pronouncing the practice illegal. In the United States it was introduced about ten years ago, and owing to the publications and lectures of H. H. Haaf of Chicago, Prof. Henry of Wisconsin, and the endorsement of a number of the agricultural experiment stations, it has spread with great rapidity during the past

five years. It is now a common practice in Iowa, Wisconsin and Illinois and on the large ranches and stock farms of the Western States, and the number of cattle dehorned is said to be over one million. In Canada it has been carried on to a limited extent during the past four years in the western part of this Province and also in Quebec.

VARIOUS LEGAL DECISIONS.

Looking at the practice from a legal aspect, the Commissioners find that it has been the subject of litigation from the year 1874 to the present time. The first important case of which we have been able to find a record occurred in Ireland in February, 1884, and since then, in Great Britain, six appeals from magisterial decisions have been carried to the higher courts. The result has been that the Irish and Scottish courts have affirmed the legality of the practice, while in England Lord Chief Justice Coleridge and Mr. Justice Hawkins have condemned it as illegal and subject to serious penalties.

THE LAW AGAINST CRUELTY.

The Dominion statute against cruelty to animals, under which prosecutions were brought, reads as follows:

"Everyone who wantonly, cruelly, or unnecessarily beats, binds, ill-treats, abuses, over-drives, or tortures any cattle, poultry, dog, domestic animal or bird shall, upon summary conviction before two justices of the peace, be liable to a penalty not exceeding \$50, or imprisonment for any term not exceeding three months."

In the English law it is enacted:

That "if any person shall cruelly beat, ill-treat, over-drive, abuse or torture, or cause or procure to be cruelly beaten, ill-treated, over-driven, abused or tortured any animal" such offender shall be subject to such punishment as is prescribed by that statute.

SUMMARY OF BRITISH TRIALS.

The following brief note of the various cases will show at a glance how the matter stands:

Ireland, 1884—Brady v. McArgle. Magistrate refused to convict. Exchequer division held that conviction should have been entered. (Baron Dowse and Mr. Justice Andrews.)

Ireland, 1885—Callaghan and McEvoy v. the S. P. C. A. Three magistrates at the petty sessions held that they were bound to convict in accordance with the above decision. Common pleas division of the High Court of Justice overruled this, and held that the operation, skilfully performed, did not come within the meaning of the Act. (Chief Justice Morris, Mr. Justice Harrison and Mr. Justice Murphy.)

Scotland, 1888—Penton v. Wilson. Acquitted by the sheriff-substitute. Case appealed to a higher court, and the sheriff-substitute sustained. (Lords Young, McLaren and Rutherford Clark.)

England, 1888—Ford v. Wile. Acquitted by a board of five magistrates. Higher court held that conviction should have been entered. (Lord Chief Justice Coleridge and Mr. Justice Hawkins.)

Scotland, 1891—Penton v. Wilson.Appealed to a higher court, and the two previous decisions unanimously confirmed. (The Lord Justice Clark, Lords McLaren, Trayner, Wellwood and Kyllachy.)

Ireland, 1891—Newland v. McDonagh. Two magistrates refused to convict. Higher court sustained this decision. (The Lord Chief Justice, Mr. Justice O'Brien, Mr. Justice Johnson, Mr. Justice Holmes and Mr. Justice Gibson.)

United States, 1886—Illinois Humane Society v. Haaf. Tried at Chicago ; case dismissed. About the same time the Pennsylvania Society for the Prevention of Cruelty to Animals prosecuted a farmer named Horst. The case was submitted to a jury, who dismissed the action, but imposed one-half the costs on the defendant and one-half on the Society. The last prosecution to date in the United States was decided June, 1892. The Western Pennsylvania Humane Society brought an action against a farmer near Pittsburg. The defence had a large number of witnesses, many of whom testified that the cattle, when dehorned, would herd together like sheep, never fight, and put on flesh better ; also, that the pain of the operation lasted only a few moments. A verdict of acquittal was brought in by a jury.

Canada, 1890—The Montreal S. P. C. A. brought an action against J. L. Shepard, a farmer of Abercorn, Quebec. The case was tried before four Justices of the Peace, who dismissed it with costs against the Society on the evidence of 22 witnesses that the operation was a beneficial one ; the defendant, however, voluntarily paid his own costs. In the early part of the following year W. V. Nigh was prosecuted on the same charge at London, Ontario, before two Justices of the Peace, who dismissed the case without costs. In January, 1892, William York, Elwell York and W. A. Elliott were prosecuted at London, Ont., before two Justices, convicted, and fined \$50 and costs each.

FIRST IRISH CASE.

The first case of dehorning brought before the courts, of which a record is obtainable, was that of Brady v. McArgle in Ireland.

The defendant, McArgle, was summoned at the instance of Thos. F. Brady, Hon. Secretary of the Society for the Prevention of Cruelty to Animals, for ‘ having caused the horns of certain cattle to be cut off and otherwise ill-treated them on the 25th of February, 1884, at Greenan, in the county of Meath, Ireland.’

The case was heard before Mr. George McCarthy, R. M., sitting alone as justice at a petty sessions held at Drumconrath on the 19th of March, 1884. After hearing the evidence for and against of seven witnesses, the magistrate declined to convict, on the grounds that in his opinion the act was not cruelty within the meaning of the statute, and that the custom of dehorning cattle greatly prevailed among the farmers of the district to enable them to get a larger price for their beasts. He accordingly dismissed the case on the merits.

At the request of counsel for the complainant, the magistrate agreed to state a case for the opinion of the Superior Court on the question of law whether the acts proved came within the statute, and the question for the consideration of the court was :

Whether the magistrate was wrong in point of law in dismissing the case, or whether he should have convicted upon the above facts ?

EXCHEQUER DIVISION.

This case next came before the Exchequer Division, April 19, 1884, the presiding judges being Baron Dowse and Mr. Justice Andrews. Both these justices concurred in the decision that the magistrate ought to have convicted, on the ground that the act was an offence within the meaning of the Act.

His Lordship Baron Dowse pointed out that it was not contended that these acts were done for the sake of the cattle. After dealing at some length with the interpretation of the word “cruelty,” he continued :—“ I cannot hold that what is here complained of better fits or makes the animal more serviceable for the use of man. I think the acts were unreasonable and unnecessary, and are consequently forbidden by law. The acts were done for convenience, it is said. Convenience of whom ? Of the man who chooses to feed his cattle in a narrow yard, or in a particular manner and in a confined place.

In my judgment the acts cannot be said to be done to make the animal more serviceable for the use of man. They were done for the convenience of particular individuals, and for their contingent profit, and under special conditions, and under circumstances of limited and by no means general application. There are some markets in England where beasts are preferred without horns, but if there were other markets where, that they might be more easily fattened they were preferred without eyes, would that justify or excuse any person in depriving the animals of their eyes? . . . Nobody can contend that it was absolutely necessary to cut off these horns, and in my view it was eminently unreasonable. . . . Once the cruel act is unreasonable and unnecessary—and, in my opinion, the act here is both one and the other—the prosecution ought to succeed. On the facts as laid before us the magistrate should have convicted. The case must, therefore, be sent back to him, with the opinion of the Court that he was bound to convict, and as this is a case of the first impression in this country, we shall give no costs of the argument."

Mr. Justice Andrews, in agreeing with His Lordship, held that the dehorning of cattle in the manner proved constituted an offence under the statute.

The case was, therefore, remitted to the magistrate with this opinion.

S. P. C. A. v. CALLAGHAN.

The next Irish case came before Magistrates McCarthy, Bowlby and Everard at the petty sessions, George's Cross, county Meath, on November 25, 1884. Two farmers, Messrs. Callaghan and McEvoy were charged with cruelty to animals, in having dehorned 13 and 16 cows respectively. The counsel for the complainant (S. P. C. A.) called upon the magistrates to convict, relying upon the decision in *Brady v. McArgle*. The magistrates stated they were bound to convict in accordance with the decision quoted. They found, however, that in the case of individual cattle, the operation was not improperly or unskillfully performed and they would not have convicted in these cases had they not been of opinion that the decision of the Exchequer Division applied and ruled every case where an animal is dehorned.

In respect of the justification relied upon by the defendants, the magistrates stated that they arrived at the conclusion that the operation increased the marketable value of the animals, that it rendered them quiet and tractable and less dangerous to man and each other, that no practice causing less pain could be substituted for it, and that the advantages attainable by the practice were vastly out of proportion to the pain inflicted thereby, provided that the operation was skilfully performed.

The case was then submitted to the Common Pleas Division of the High Court of Justice for a decision as to whether the practice of dehorning cattle was one of cruelty to animals within the meaning of the Act. On the bench were Chief Justice Morris, Mr. Justice Harrison and Mr. Justice Murphy, and all three concurred that the operation skilfully performed could not be held to come within the meaning of the Act.

Chief Justice Morris in his judgment said: I am of opinion that dehorning of cattle skilfully and properly performed is not an offence within the meaning of the Act, which is directed altogether against acts of cruelty. . . . Though in dehorning skilfully performed, the pain inflicted appears to me on the evidence to be very temporary, yet it does appear to me to be substantial; but looking at the suffering in reference to the object with which it is inflicted it cannot in my

opinion be considered unnecessary, for the object is reasonable and adequate.

In cases like the present where there is no appeal, this court though entertaining every respect for the decision of a court of concurrent jurisdiction, cannot follow it in a case dealing with such important interests as the present, and which in my opinion very clearly should be decided with the appellants.

The prosecution by a society like the prosecutors should in my judgment be carefully, perhaps jealously watched. Most laudable in its inception and objects, it has a tendency to fall into the hands of over-active officials, or to be urged on by individuals seeking to impose an undue extension of a general act their own idiosyncrasies on society. The vivisection Act is important as showing that legislation was necessary to restrain within certain limits painful experiments. If the opponents of dehorning cattle desire to check or restrain its operations in a similar way they must resort to legislation.

Mr. Justice Harrison said that it appeared from the evidence that the practice had commenced about twenty years ago and was prevalent in many parts of Ireland. He was of the opinion after considering the conclusions arrived at by the magistrates and reading over the evidence, that the practice was a reasonable one, and necessary for the proper carrying on of the system of straw yard winter feeding, largely and profitably practiced in many parts of Ireland. He was further of the opinion that the fact that the operation was attended with pain was not sufficient to constitute it a cruel or criminal act within the meaning of the statute. Regard must be had to the use to be made of cattle. One of such uses was for food for human beings, and if this practice was advantageous in making cattle thrive better in store feeding and be more safely conveyed in transit it could not be held to be an act within the statute being done to make the animal more serviceable for the use of man.

Mr. Justice Murphy held that in a case of this kind self-interest would prevent any farmer from resorting to a practice, where the result was merely to cause useless pain or torture to the animals. Great pain and suffering would necessarily reduce the condition of the animal, and unless they very soon recovered the farmer would lose in the sale. The defendants had produced evidence to show that the pain caused by the operation was very brief; that the animal feeds very soon after the operation; that it thrives better than animals from which the horns were not removed; that in transportation dehorned animals suffer less, the cattle with horns being liable to suffer from being gored one by the other; and that in the English markets to which they resort for sale the animals dehorned bring £2 per head more than animals of the same weight and quality would with horns on . . . The purpose for which the act was done was to make the animal more serviceable for the use of man, and therefore the statute did not apply, and the court had no more right to interfere with farmers in the performance of this operation than they had to prevent them from cutting their horses. The operation in either case might be performed so unskillfully or recklessly that unnecessary pain might be caused and the act would then be cruel and within the statute, but if performed with ordinary skill and care it was perfectly legal.

IN THE SCOTTISH COURTS.

In Scotland in the case of Renton v. Wilson three decisions were given by different courts, all affirming the legality of the practice. Additional importance attaches to this from the fact that the last decision—that of the Scottish Court of Appeal—was given subsequent to the English finding of illegality.

FIRST SCOTCH CASE.

George Wilson, cattle dealer, Cupar-Fife, was on the 6th of March, 1888, at the instance of Robt. W. Renton, summoned before one of the sheriff-substitutes of Fifeshire at Cupar, charged with a contravention of the Act for the Prevention of Cruelty of Animals in having dehorned 37 oxen, the property of Donald Robertson. Among the facts held proved by the sheriff-substitute were the following:

The cattle referred to in the complaint were dehorned by the respondent acting on the instructions of Donald Robertson, farmer, Mayfield, near Cupar, the owner of the cattle, with the assistance of four other men. The horns were sawn off close to the head by the respondent, the skin at the base of the horn being first cut with a knife to permit of the saw getting close to the skull. The operation caused profuse bleeding and the animals appeared to suffer considerable pain during it, as evinced by their bellowing. The sawing through of each horn occupied about a minute. The operations took place on January 7th and January 23rd.

On January 28, the oxen were seen by Principal Walley, of the Royal Veterinary College, Edinburgh, and Mr. John E. Grey, V. S., Edinburgh. They furnished a report setting forth that they inspected two lots of nine and 28 that bore evidence of having been recently dehorned. In each case the horns had been removed close to the skull and in one animal the sinuses of the head had been opened. The report continued: "A considerable quantity of blood and purulent matter had in most cases escaped from the wounds and had dried on the hair at the sides of the head and face, and several of the animals, a white bullock in particular, were standing with the nose protruded and shrunken in the flanks and had the appearance of having suffered from the effects of the operation. The removal of the horns had in some cases been effected so close to the skull as to necessitate cutting through the skin of the head. We are of opinion that the operation must have caused much pain and been the means of much subsequent suffering and being performed in the manner described was a grossly cruel operation and quite unnecessary for all practical purposes."

A number of professional and practical witnesses were examined both for the prosecution and the defence and the result of their evidence may be shortly summarised as follows:

It was held as proved that the cells of the horn core are lined with a delicate membrane which is extremely sensitive and vascular, particularly at the base of the horn where it is continuous with the lining of the sinuses of the head. Between the core of the horn and the outside horn covering is another delicate sensitive membrane continuous with the true skin of the head and the most sensitive part of the body of the animal. That intense pain was caused by cutting through these structures as well as subsequent suffering from inflammation, increased in case of injuries to the horn, by there being no relief from swelling owing to the hard nature of the surrounding substances. That in the cattle in question the sinuses of the head had in each case been laid open which led to greater risk of inflammation. It was also held as proved that in many places the objects sought to be attained by dehorning were met either by separating the vicious and weak animals by putting wooden balls or pieces of wood on the horns or by what is known as "tipping," namely cutting off the tip of the horn just above the quick; that these methods had proved satisfactory in those districts, and that thousands of cattle of all breeds so treated, came weekly into the Edinburgh cattle market.

On the other hand it was held proved for the defence that the dehorning of cattle was regularly practised by farmers and breeders of cattle in Fifeshire, Kinrossshire, Perthshire, Forfarshire and Kincardineshire. That the objects for which the operation was performed were the safety of the animals of the herd which frequently suffered painful and serious injuries through goring and butting, and were often prevented from feeding by the stronger cattle when the horns were allowed to remain and also for safety in carriage by sea or rail, the horns being a source of great discomfort and danger to other cattle. So far as tried knobbing and tipping had not been found satisfactory by the defendants as a means of preventing goring. It was further proved that the respondent had considerable experience in dehorning cattle, and was frequently employed by farmers and breeders in the county of Fife to perform this operation; that it was performed skilfully, and in a manner frequently adopted in the county.

The sheriff-substitute, in his finding was largely guided by the following principle laid down in the case of Lewis v. Fermor, in the Court of Queen's Bench, England, March 1887: "A person who with reasonable care and skill performs on an animal a painful operation, which is customary, and is performed *bona fide* for the purpose of benefitting the owner by increasing the value of the animal, is not guilty of the offence of cruelly ill-treating, abusing or torturing the animal within the meaning of 12 and 13 Vict. cap. 92, sec. 2, even though the operation is in fact unnecessary and useless." He held that the principle laid down applied to the present question, and that even assuming the operation of dehorning to be unnecessary, the respondent was not guilty of a contravention of the Act, and he accordingly acquitted him.

THE HIGH COURT.

The case was then taken to the High Court of Justiciary for an opinion on the question of law:—

1. Whether the sheriff-substitute was right in adopting the principle laid down in the case of Lewis v. Fermor as applicable to the present case; and
2. If not, do the facts above set forth infer a contravention of the Act 13 and 14 Vict. cap. 92.

This appeal came before Lords Young, McLaren and Rutherford Clark.

Rankine, for the appellant, claimed that in this case the sheriff-substitute had erred in acquitting the respondent, the operation performed being both cruel and unnecessary. Dickson, for the respondent, held that the sheriff-substitute was right. The operation was necessary and was performed by persons who had a legitimate interest and object in view. It was no doubt a painful operation, but was not done wantonly or in order to ill-treat or abuse the animal.

THE FINDING.

Lord Young said he was of opinion that the judgment of the sheriff in this case was right. He would not express an opinion as to the propriety of what was done to these cattle—none whatever. For anything he might say, the operation might be not only very unnecessary—the object being attainable otherwise and without pain—or might even be a very bad operation—very wrong—not merely attaining a good end in an unnecessarily painful way, but in every view a bad operation. According to the facts stated in the case by the sheriff, it appeared that the farmers in a certainly not unimportant district of the country were of opinion that their legitimate interests were served by cutting the horns off certain animals, and that was accordingly done, and to such an extent that there were

professional men engaged in performing this operation of dehorning, and this prosecution was against a professional man who had been employed by the owner of cattle to dehorn them. He was of opinion that this was not a case of cruelty within the meaning of the Act, and to come to this conclusion he required no authority from decisions in similar cases. The Act would certainly apply to wanton and malicious cruelty where the object was to cause suffering to the animal, but there were many acts which had a certain amount of cruelty associated with them and which had been referred to in the course of the argument—castrating horses, spaying of sows and preparing of capons—which did not, however, amount to cruelty within the meaning of the act, though there were many people, no doubt who considered these to be very cruel operations under all circumstances. In conclusion he said:—"The statute does not pretend to interfere with human life to such an extent, or with the judgment of those who are pursuing their own affairs intelligently and to the best of their judgment, as the farmers in Fifeshire have been doing, although in the opinion of others more numerous than themselves they may be mistaken. I am therefore of opinion that this appeal ought to be dismissed."

Lord McLaren and Lord Rutherford Clark both concurred in this decision.

THE ENGLISH CASE.

The next trial in chronological order was in England, that of Ford v. Wiley, sometimes called "the Norfolk case." At the Blofield petty sessions, on Nov. 26, 1888, J. C. Wiley, a Norfolk farmer, was summoned at the instance of the Royal Society for the Prevention of Cruelty to Animals for having unlawfully and cruelly tortured 32 bullocks by dehorning them. Mr. Wiley admitted having performed the operation and afforded every facility to the officers of the society for ascertaining how it had been done and in what state the animals operated upon had been left. The case was heard by a board of five magistrates. For the prosecution evidence was given by the informant and thirteen distinguished professors and members of the veterinary profession, while fifteen farmers testified in favor of the practice. The pain of the operation was placed in a very strong light by the professional men, the anatomy of the horn being fully described. Prof. Walley, of the Royal Dick's Veterinary College, Edinburgh, was examined at greatest length and in the course of his evidence said: "Every tooth of the saw as it tears through this structure causes excruciating pain, and the inflammation following the operation produces great and prolonged suffering." "It is like cutting through the quick of your finger." This evidence was concurred in by other veterinary experts, and could not fail to carry great weight.

For the defence, however, Mr. Gidney pointed out that the learned professors were obliged to admit that they had no experience in dehorning beyond surgical operations, while he could show by the evidence of practical men that the operation prevented the cattle from suffering a great deal of injury, and that from a humane point of view it was desirable that it should be performed in the interests of the animals. The suffering and pain which they inflicted upon each other was far greater, he contended, than that which they underwent by the operation of dehorning. Witnesses for the defence, all practical farmers, then testified that dehorning, in addition to increasing the value was beneficial to the animals themselves, as it prevented injuries from goring; that they had tried tipping and knobbing the horns without success, and that while suffering was caused by the operation it was not so great as they had previously imagined, and was not in their opinion out of proportion to the benefits secured.

The case was dismissed, the following being the decision of the justices:—

We were of opinion that the appellant had proved that the dishorning of the cattle in these cases had caused considerable pain and suffering to the animals.

We were satisfied that the respondent had exercised ordinary care in the performance of the operation.

We considered it as proved that the practice of dehorning cattle had been carried on in a part of the county of Norfolk to a considerable extent during the past three or four years.

Also that the results attained by dehorning could not be obtained by merely tipping the horns as suggested by some of the witnesses called by the appellant.

We do not believe that the respondent had any cruel intention in performing the operation but that he acted under the honest belief that it was for the benefit of the animals themselves, and as well for the benefit of himself as a grazier, and that the object he had in view could not be attained by any other known method.

We accordingly dismiss the information laid against him, without costs.

We were of opinion that upon the evidence adduced by the appellant it is advisable in dehorning cattle that the operation should be performed at an early age.

The magistrates, at the request of the Royal Society for the Prevention of Cruelty to Animals, stated a case for the opinion of the judges of the High Court of Justice, Queen's Bench Division, on the following question:—

"Is the operation of dehorning cattle as proved to have been performed in this case justifiable having regard to section 2 of 12 and 13 Vict. cap. 92?"

BEFORE THE HIGH COURT.

The case then came before Lord Chief Justice Coleridge and Mr. Justice Hawkins on April 12, 1889. Mr. Lumley Smith, Q.C., argued the case for the appellant, and Mr. Winch, Q.C., for the respondent. The rights of man over the dumb creation were discussed at length, and their Lordships gave judgment reversing the decision of the magistrates, and holding distinctly that the practice of dehorning was unlawful. In arriving at this conclusion they attached great importance to the expert testimony given by Prof. Walley and other veterinarians, and held that the suffering inflicted was out of all proportion to the commercial considerations of the operation. Lord Coleridge denounced the practice as detestably brutal. In giving a definition of the term "cruelty" he says: "The mere infliction of pain is not cruelty, for in medicine and surgery it is necessary and lawful to inflict pain. Necessary pain is limited to what may fairly be inflicted on animals in order to enable them to attain their due degree of development or become fitted for ordinary use." Cruelty he defined to be unnecessary abuse or unnecessary ill-usage by which the animal substantially suffers. Dehorning he considered unnecessary. For twenty years or more the practice had been entirely disused throughout England and Wales, and it had not been thought necessary to perform it on any of the millions of cattle which the farmers of England had reared and sold to be eaten. Necessity, to constitute an excuse under the Act, did not simply mean that the object of the operation could not be otherwise secured. There must be some proportion between the object and the means. To put thousands of cows or oxen to the hideous tortures described in the evidence in order to put a few pounds more into the pockets of the owners was an instance of utter disproportion between the result and the practice described—was barbarous and unlawful.

Mr. Justice Hawkins said that while he should have been quite content to express cordial concurrence in the judgment of the Chief Justice the importance of the question to a large community led him to express his own independent views as to it. To support a conviction it must be proved that the pain or suffering had been inflicted in fact, and that it was inflicted cruelly. That the operation of dehorning as described in this case was accompanied by excruciating torture was beyond all question, and anyone who could willingly inflict such

suffering, unless under the direst necessity, must indeed be cruel at heart and insensible to every dictate of humanity. . . . The legality of a painful operation must be governed by the necessity for it, and even where a desirable and legitimate object is sought to be attained the nature of the operation and the pain caused thereby must not so far outbalance the importance of the end as to make it clear to any reasonable person that it is preferable that the object should be abandoned rather than that the suffering should be inflicted. Dehorning was an operation so torturing that one shuddered to think that men could be found to perform it. He failed to see the necessity or reason for the operation. If an owner to enhance the value of his cattle by 20s. or 40s. mutilated them at an expense to the animals of excruciating torture how could this be said to be necessary or reasonable? Evidence that such an operation was unnecessary was also to be found in the fact that throughout vast districts both in England and Scotland thousands upon thousands of horned cattle were to be seen, many herding together peacefully enough, grazing in the same fields, confined in the same yards, feeding, thriving and fattening together. While occasionally one of such animals might give a little more trouble than the rest, was not this abundant proof that dehorning was not necessary for the benefit of the animal, or to render it fit for all legitimate purposes of its owner, and that tipping or knobbing had been found to be and were practically sufficient. He strongly dissented from the principle laid down in the case of *Lewis v. Fermor*. He dissented from any notion that a mistaken belief, however honest, that the law justified a painful operation when in truth it did no such thing, would operate as an excuse at all, except perhaps in mitigation of punishment. It followed then from what he had said; and the reasons he had given, that in his opinion the practice of dehorning was a cruel, unreasonable and unnecessary abuse of the animals operated on, and therefore was illegal and ought to be suppressed, and that the magistrates ought to have convicted the respondent.

THE SCOTCH CASE APPEALED.

The Scotch case of *Renton v. Wilson* was carried to the Scottish Court of Appeal under the name of *Todrick v. Wilson*, on March 3, 1891, and in the interval the decision of the English Court had been given. On the bench were the Lord Justice-Clerk, Lords McLaren, Trayner, Wellwood and Kyllachy. The facts as given in the previous case were recited :

Graham, Murray, Wallace and Chisholm for the appellant claimed that great pain was caused even though the operation was carefully performed, that the same results could largely be attained by other means, and that the pain inflicted was out of all proportion to the benefits said to be derived from it. These two points being clearly established, the respondent should have been convicted. This was the view taken of the Act in England in the case of *Ford v. Wiley*.

Comrie Thomson and Orr for the respondent, held that the judgment of the sheriff-substitute was right and should be affirmed. The facts set forth clearly distinguished this case from the English case. That was practically a special case. The facts there shewed that the operation was clumsily and cruelly performed and that it was almost entirely unknown in England.

The finding of the court was a unanimous confirmation of the two previous decisions. The views of the various judges may be given briefly as follows:

Lord McLaren in delivering judgment stated that in a previous complaint against the same respondent, *Renton v. Wilson*, it was determined that the dehorn-

ing of cattle performed in circumstances set forth in the case, did not amount to a contravention of the statute. In a case which afterwards came before the High Court of Justice in England a court consisting of the Lord Chief Justice and Mr. Justice Hawkins, they came to a contrary conclusion on the facts laid before them, and the case which was now to be decided was instituted he understood with a view to having the question of the legality of dehorning considered by a court differently constituted and consisting of a greater number of judges. . . . What we have here to consider is not the question of the expediency of prohibiting dehorning of cattle, but whether the practice is prohibited by being included in the general enacting words of the statute, namely, cruelly ill-treating, abusing or torturing animals . . . I am of opinion that the language of the statute is not in fair and just construction applicable to the case of the operation of dehorning, when performed with skill and for the legitimate purpose of preventing the cattle from injuring one another. . . .

Continuing, he said he was disposed to give the greatest weight to the decision of a co-ordinate English court, and he had no desire in any way to criticise the opinions of the eminent judges by whom the case of *Ford v. Wiley* was decided. He was not sure that he should dissent from the reasoning or the conclusions embodied in those opinions as applicable to the case before the English Court, because he observed that the learned judges were agreed in holding it proved that the operation of dehorning was neither necessary nor customary in England. In their view of the facts, dehorning was treated as a purely experimental proceeding, not productive of benefit to the owners of the animals, and a cause of needless and therefore cruel suffering to the animals themselves. He might hardly repeat that the facts as laid before them pointed to a very different conclusion, and while their decision was necessarily different in its legal consequences from the decision of the Supreme Court in England, it did not appear to him that there was any fundamental difference in the principles of interpretation which had been applied by the courts of England and Scotland to the construction of this statute. Assuming in accordance with the sheriff-substitute's finding that the dehorning was performed with skill and without the infliction of unnecessary pain, he was of opinion that the respondent had not rendered himself liable to a criminal prosecution, and that the judgment of the sheriff-substitute ought to be affirmed.

Lord Trayner said that owing to the importance of the question he had carefully considered the argument as well as the various cases cited. The reasons given for the judgment in *Ford v. Wylie*, as far as not based on the particular facts there found proved, seemed to him inadequate and inconclusive, while the judgment in *Lewis v. Fermor* appeared on the other hand, to be well founded both in sense and law. He was therefore of the opinion that the question should be answered in the negative.

Lord Wellwood said that the question submitted was one of law and not of fact. The facts as found by the sheriff-substitute were that the operation was skilfully performed, that it effectually prevented the animals from injuring each other, and was for the benefit of the cattle, and that other remedies do not so effectually prevent cattle from injuring each other. In this state of the facts he had acquitted the respondent. . . . In order to justify conviction the inadequacy of the object must be such as would lead any reasonable and humane man capable of weighing evidence, to hold that the pain inflicted was out of all proportion to the object in view. On the facts stated he could not hold that the sheriff-substitute's decision was wrong, on the contrary he thought it was right.

Lord Kyllachy agreed that the facts of the case as found by the sheriff-substitute left no room for doubt as to the propriety of the sheriff's judgment. He

found as a matter of fact that the operation of which they had heard so much was not merely useful in the interests of the owner of the cattle, but was also useful and even necessary in the interests of the beasts themselves. In these circumstances it was plainly impossible to affirm that the operation was one which came within the scope of the statute unless indeed it was to be held—which nobody had suggested—that the statutory offence was committed by the mere infliction of pain.

The Lord Justice-Clerk said that while it was not necessary for him to express an opinion he wished to say that the view he took of the case was entirely in accordance with the opinions which their Lordships had expressed.

The appeal was therefore dismissed and the decision of the inferior judge affirmed.

THE LATEST DECISION IN BRITAIN.

The last case that found its way to the higher court was that of Newland v. McDonagh, in Ireland. James McDonagh, of Carlanstown, was charged before two magistrates at Kells, county Meath, with having caused the horns of 26 oxen to be cut off on the 17th of April, 1890, which, it was alleged, was cruel treatment within the meaning of the act for the prevention of cruelty to animals. The case occupied several days before the magistrates, and a large number of witnesses were examined. The magistrates dismissed the summons, but stated a case for the opinion of a higher court. The case then came before the Queen's Bench Division of the High Court of Justice, Ireland, consisting of the Lord Chief Justice, Mr. Justice O'Brien, Mr. Justice Johnson, Mr. Justice Holmes, and Mr. Justice Gibson, and they delivered judgment on May 6, 1891, upholding the legality of the practice.

The Lord Chief Justice, in delivering judgment, reviewed the facts as found by the magistrates. In summarising the decisions already given, there were, he said, ten judges who had pronounced an opinion in favor of the legality of the practice, and four who held a different opinion, and if they were to have regard to the reasons given in two other cases, although not cases of dehorning, arising out of the same section of the Act of Parliament, the statistics of judicial opinion showed that fourteen judges were in favor of the legality of the practice. This court was not bound by those decisions, as there was no right of appeal from them, but, of course, they would examine their reasons with the deference due to distinguished tribunals. They brought an absolutely open mind to the consideration of the subject, as none of the present tribunals had until now pronounced any judicial opinion on the subject. What, then, was the test by which they were to define cruelty within the meaning of the statute? It was conceded that it must be something more than the mere infliction of pain. This was obvious, as there were many operations which caused great pain, but yet were perfectly lawful. The Solicitor-General contended that in cases, even where the object was justifiable, it must be attained by means the least painful that could reasonably be employed. Mr. Justice Wightman, in Birds against Parsons, defined the cruelty intended by the statute the unnecessary abuse of any animal; and in a later case, Mr. Justice Grove defined it as unnecessary ill usage, by which the animal suffered. Lord Morris, in the case before the common pleas, said he preferred this latter definition, which included two propositions, viz., that the pain must be substantial and the suffering unnecessary. In his (the Lord Chief Justice's) judgment, those definitions were substantially correct, and though there was a difference of phraseology, they were all substantially the same. Now, it could not with any

show of reason be contended that the question of necessity was to be determined by regard merely to what was necessary for the animal itself. Where were they to find justification for pain inflicted upon an animal? By a reference, in his opinion, to the objects for which cattle were given to mankind—cattle were given to man for his use, amongst other uses that they might be fattened, trafficked in, killed, and eaten. Any operation that adapted them for the purposes for which they were placed at man's disposal was not cruelty within the statute, provided it was performed under the honest and reasonable belief of its usefulness for those purposes, and with reasonable care and skill, and not attended with such suffering as men of ordinary humanity would consider disproportionate to the object sought to be attained. In the case before Lord Coleridge and Mr Justice Hawkins, the judges seemed much impressed with the fact that dishorning had been discontinued throughout nearly the entire of England and Wales. Now, if it had been found that the practice of dishorning had been discontinued in Ireland generally, and was practised in only one part, in one county, as was the case in England, he would have had the greatest difficulty in affirming its legality; but it appeared that the practice of dishorning had been carried on to a considerable extent in Scotland, and was widely prevalent throughout Ireland. It was largely practised in Meath, Louth, Dublin, Kildare, Monaghan, Westmeath, Queen's County, Carlow, Roscommon, Galway, and in other counties. The counties he had mentioned were the principal fattening districts of Ireland. The practice also appeared to be daily extending. One of the witnesses stated it had increased all over Ireland four or five times since the last decision, and that its suppression would cost the country nearly half a million of money per annum. It appeared, also, that the practice of dishorning conferred advantages on the owner of the cattle, on the community at large, and on the cattle themselves—that dishorning of cattle increased their market value, and that its suppression would cause the country very serious loss. Dishorned cattle thrived and became quiet. They were more easily handled, less dangerous to man and to each other, and less liable to injury when on pasture or in transit. Anyone who has seen anything of cross-channel traffic knew that cattle suffered grievously from the injury inflicted on each other by goring. The advantages conferred by dishorning on the owners of cattle and on the community did not seem to weigh at all with Lord Coleridge and Mr. Justice Hawkins; but if this court were to dismiss those advantages altogether from consideration they would be ignoring the objects for which cattle were given to man. The advantages conferred by dishorning on the owner and on the community at large, as well as on the cattle themselves, must be taken into consideration in determining the reasonableness and adequacy of the objects of those who performed the operation, and, in his judgment, having regard to the evidence given as to the character of the operation of the no doubt very great, but very temporary, pain which attended it, and the motives and objects of those who got it performed, and the results which followed from its performance, the magistrates were justified in coming to the conclusion that the pain was not inflicted without good reason. As to the nature of the suffering inflicted, he might refer to an observation of Mr. Justice Murphy in Callaghan's case:—"In a case of this kind self-interest would prevent any farmer from resorting to a practice of this nature if the result were merely to cause useless pain and torture. Great pain and suffering would necessarily reduce the condition of the animal, and unless they were soon recovered the farmer would lose in sale." The Solicitor-General contended that what was called disbudding was a less painful and more reasonable method of dishorning, but that contention was challenged by witnesses for the defence. Disbudding was not practised to any considerable extent, and though, perhaps, less painful than dishorning, the question the court had now to

determine was whether dishorning, skilfully performed, was or was not unreasonable. Lord Young, in the Scotch case of Renkall v. Wilson, said the statute "did not intend to interfere with human life to such an extent, or with the judgment of those who were pursuing their own affairs intelligently and to the best of their judgment, as the farmers in Fifeshire had been doing, although in the opinion of others more numerous than themselves they might be mistaken." These observations applied with considerably more force to Ireland. The practice of dishorning was far more widely prevalent in Ireland than in Scotland. In his judgment the present prosecution was not within the scope and provisions of the Act of Parliament. To attempt to apply it to a case where it was sought to suppress a method of carrying on their business sanctioned by the great body of the representatives of the principal industry of this pastoral country would, in his opinion, be to do that which was never contemplated by the statute or legislature. For these reasons he was of opinion that the magistrates were correct in point of law in dismissing the case, and that the respondent should have his costs.

Mr. Justice O'Brien, concurring in the judgment of the other members of the court that the decision of the action of the magistrates was right, and that the prosecution should be dismissed, observed that with all that could be said on behalf of the practice of dishorning, its alleged necessity, and the fanciful millions that would be lost to the country if it were stopped, he could not personally deliver his mind from the uneasy consciousness that it was, after all, a brutal business, with which some persons would have no concern for the world, and that it was an invasion upon the rightful dominion which man had received over animals, carrying with it a commission not less of mercy than of power towards the humble servants of his will, in virtue of which he was appointed to be their master and not their cruel tyrant. He was of opinion, however, that the statute had not declared that dishorning *bona fide* for the purpose of increasing the value of the cattle was a practice that should be prevented.

Mr. Justice Johnson said it was their duty merely to determine whether the magistrates had correctly decided the case in point of law, and in his opinion they had.

Mr. Justice Holmes held that the operation referred to in the summons in this case was not an act of cruelty within the meaning of the Act. The pain caused by dishorning was not greater, perhaps, than that to which human beings were in the habit of voluntarily submitting themselves for the purpose of altering and improving a feature or the form of a limb.

Mr. Justice Gibson also held that the justices had evidence to justify the decision at which they had arrived. That being the case, it was not his province to go behind their findings on the facts.

Judgment was accordingly entered for the respondent, with the costs of the case stated.

Counsel for the appellant—The Solicitor-General, Mr. G. V. Hart, Q.C., and Mr. W. P. Ball (instructed by Mr. George Keogh). For the respondent—Messrs. Walker, Q.C., Ross, Q.C., and Kenny, M.P. (instructed by Messrs. Reeves & Son).

LEGAL CASES REVIEWED.

It will be observed that the question of dehorning has been adjudicated upon by twenty eminent judges of Great Britain, in addition to a large number of lower magistrates. The subject was argued in all its bearings, and as a result we find that sixteen judges declared the practice to be legal, while four judges pronounced it to be illegal. In the United States, although several prosecutions have taken place they have in each instance ended in acquittal. In Canada in minor courts, there have been two acquittals and one conviction.

REPLIES RECEIVED.

Of the replies received the Directors of twelve State Agricultural Stations wrote that they had superintended dehorning experiments and were satisfied that it was a desirable practice, while several others favored it although they had no personal experience. The Directors of eleven State Colleges replied that they had no experience, while the Directors of three other State Colleges wrote that they had not seen any experiments, but were opposed to the practice. From prominent veterinarians, stock-breeders and farmers about twenty letters were received in favor of the practice, while three breeders wrote against it. It might be added that in only two cases is opposition expressed after having seen the operation. The more important letters, summarized as far as possible, might be given as follows:

STATE AGRICULTURAL STATIONS.

In Favor of Dehorning.

I. P. Roberts, Director, Cornell University Agricultural Experiment Station:—"I have practised dehorning for about five years and on about 1,000 head. The age is immaterial. The operation is somewhat similar to pulling a tooth. Sometimes we use carbolated vaseline afterwards. A little skin should be removed with the horn. Dehorning increases the value of the animals by several dollars per head. Disbudding by means of stick caustic potash is a good thing, but it should be done before the calf is two weeks old. Briefly, the advantages of dehorning are increased production, diminished danger, reduced losses and above all the prevention of the pain all animals inflict upon those which are weaker. Most certainly it is a humane operation or I would not have it performed."

H. H. Wing, Professor of Dairy Husbandry in the Cornell Station:—"We have made several trials with stick caustic potash and the indications are that it is going to be the most successful, the most humane and the easiest method of growing hornless cattle. The operation of dehorning does not cause the animal to shrink in milk, nor does it affect the amount of fat or total solids in the milk. Any operation to the animal that does not disturb these functions, cannot very perceptibly disturb the animal as a whole for we know that the flow, of the milk and the percentage of fat in the milk are very easily affected by any material interference with the animal economy."

James Law, F. R. C. V. S., Cornell Station: "As practised with the saw through the root of the horn, and through the skin rather than the horny structure, the operation is certainly no more painful than castration, and is quite as justifiable. As practised with the sliding knife at one blow it is far less painful; as practised on the budding horns of the young calf it is also much less painful. Cows become more quiet and docile without horns, and if naturally disposed to fatten they sometimes run to fat at the expense of milking qualities. This argument is really in favor of dehorning as showing a lessening of the waste by exercise and excitement, and the alleged evil can be obviated by feeding a highly nitrogenous food in a sloppy form. In some comparative experiments with a variety of the strongest caustics I have had unsatisfactory results, except with

caustic potash and sulphuric acid, and the attendant and prolonged pain and the danger of accidents from the extension of caustic by rubbing, etc., were such as to render the process much more painful and objectionable than operation with the knife. While I would not for a moment endorse the dehorning of cattle in a brutal way, through the thick horn rather than through the skin, nor at a wrong season, and without protection such as tar, to keep the flies from depositing their larvae in the wound; nor the dehorning of part of a herd only to be hereafter abused by the remainder, I am fully confident that properly performed this operation is a highly beneficial one, and its few acknowledged drawbacks are far more than counterbalanced by its advantages."

Walter J. Quick, Director, Colorado Agricultural College: "I have observed the operation frequently, and noted results. I consider the proper age to perform the operation is any time between calving and ten months old. I have never seen or known of any dressing being used. In sawing, the closer the horn is taken off the better. If the skin is cut a little there is no harm done, and the greater flow of blood will come from this broken skin. I have tried disbudding and prevention of the growth of the horn by means of the chemical dehorner, which is very little more than caustic potash. I consider these methods the proper means of dehorning, as they are comparatively painless. In the former the button can be removed as soon as it is large enough to be found; in the latter the best time to apply is within three weeks old. I consider that the suffering inflicted by the operation is justified by the results, outside of any financial consideration. I believe there is as much suffering prevented as there is caused by the operation. Horns are considered by some to be a necessary evil: I consider them an unnecessary evil."

Frank E. Emery, Agriculturist, North Carolina Station (views endorsed by Prof. J. R. Chamberlain): "Appetite does not seem to be impaired by the operation, and often, with no other data than the milk record, one could not say positively when the operation took place. Animals with knobbed horns, while less dangerous, can and do make just as much disturbance in a herd as though no knobs were on them. Dehorning results in a more comfortable and quiet feeling among the herd, hence we expect less interference with the milk yield and fattening, and less danger to men from handling the bull."

Clinton D. Smith, Director, Minnesota Experiment Station: "I have practised the operation for years on dairy cows and on steers just prior to the winter feeding, probably one thousand head together. If the use of caustic on calves is effective I should prefer that method—otherwise about three years old or older. A fine-tooth butcher's saw is the best. The horns should be sawn off about quarter of an inch inside of the union of the hide and horn and in a plane parallel with the circle of union. We usually put some tar on a piece of muslin two inches square and place this upon the stub of the horn. Dehorning enables farmers to keep more animals with the same amount of help by putting them without tying in yards; it makes the whole herd more quiet and tractable. I have frequently seen ten steers drinking from the same trough sixteen feet long, without an attempt to crowd or push each other."

S. M. Tracy, Director, Mississippi Station: "I have performed the operation during the past four years on at least 500 animals. The best time to operate is when the horn can be felt distinctly, but I have taken them off at all ages: as close to the head as possible, cutting half an inch or so below where the skin joins the horn. Brass knobs prevent goring, but do not prevent fighting. Dehorning secures greater docility, less danger from injury to each other, and

fully twice as many animals can be kept and fed in the same amount of barn or lot space. I have never known any one who has practised dehorning on a large scale who would be willing to discontinue the work."

R. R. Dinwiddie, Veterinarian, Arkansas Station: "I have experimented on about twenty head and am in favor of dehorning. Disbudding under three months is preferable, either with the gouge or caustic. There is less pain and the results are as good. The advantages of the operation are: it partly prevents accidents, and facilitates feeding where many animals are unconfined or tied close together. I believe the operation, as a rule, is a humane one."

C. S. Plumb, Director, Indiana Station: "I usually remove the horn by the application of a little caustic potash just as it appears upon the surface of the skin. The horn of a yearling is removed with less pain than that of a six months old animal for the reason that the sensitive tissue comes up around the base of the horn in the younger animal much further and has to be cut through. There is a very trivial amount of blood escapes during dehorning. The horn should be taken off about half an inch below where the flesh comes up around the base. I thoroughly believe in disbudding. In my experience, calves do not show any indications of pain, and it would save lots of trouble in the future. Dehorning promotes docility, prevents goring and similar injury either to cattle or to men, enables proprietors of bulls to handle them with greater ease and safety, enables one to stable a much larger number of animals within the same enclosure, enables the weaker ones of a herd to secure a reasonable part of their rations, in the winter enables animals to bunch together and keep warmer and thus economise in the use of food; dehorned cattle ship with greater safety than horned ones if in closed cars or vessels."

W. A. Henry, Director, Wisconsin Station: "The practice of dehorning cattle, both dairy cows and steers, is exceedingly common in this State. In some sections fully two-thirds of the cattle have their horns removed. The practice was entered on here and there by enterprising farmers and dairymen, who were driven to it by injuries to stock by goring, and the frequent loss of human life through fractious bulls. Neighbors usually protested at first, but after a little gladly accepted the lesson and put it into practice on their own farms. The usual plan in this State is for some one to go about the country dehorning herds, charging such prices as will bring him three or four dollars a day for the work. Last fall in looking over the cattle coming into the Chicago stock yards I estimated that fully a third of the animals which I saw that day were dehorned. Observation from the car window show that the practice is common in Illinois, Iowa and Nebraska.

George W. Curtis, Director, Texas Station: "In removing the horn, saw from the top of the crown downward and outward, following the natural curve of the head, so as to leave the animal polled in appearance. The saw should get close to the base, even taking in a little skin, as in sawing too far from the head the bleeding will continue longer and may result fatally. I have tried knobbing and tipping and consider both practically worthless with vicious animals. Removing the buttons from calves I don't think any less painful than dehorning. We mind it less, however, for the reason that the animals are smaller and weak and cannot make so much show of resistance or pain. When practiced for vicious or unruly animals and for feeders, the results certainly justify much more pain than is given in the operation."

F. A. Gulley, Director, Arizona Station: "I have practiced dehorning for five years—on 100 head experimentally and 2,000 head on a ranch. If cattle are driven or heated just before the operation they are apt to bleed considerably.

If handled quietly the bleeding does not as a rule amount to much. The wound will discharge from five to sometimes as long as thirty days; rarely more than ten days pass, however, before the wound dries over and heals up, if the animal is in thrifty condition when the operation is performed, the weather not too hot nor too cold, and flies or other insects do not breed in the sores. Have never lost animals by the operation except in one case where two or three very thin weak animals were exposed to a severe cold storm a day or two after the operation. Occasionally an animal will have a pretty sore head, but it seems to work off after a time without any ill effects."

John A. Myers, Director, West Virginia Station, and Luther Foster, Director of the South Dakota Station, write in favor of the practice, for reasons covered in the above replies.

GENERAL LETTERS FAVORING THE PRACTICE.

Joseph Hughes, M. R. C. V. S., Professor of Anatomy, Chicago Veterinary College: "Broadly speaking, I favor dehorning; there is not much bleeding if properly performed; a little suppuration generally follows. It takes from three to five weeks before the part is fully healed. The horns should be taken off as close to the head as possible so as to get below the horn matrix, which is exceedingly sensitive and vascular, and to prevent any unsightly knobs growing afterwards. I think disbudding would be less painful and would meet all requirements. Dehorning prevents the goring of animal by animal; does away with the bullies, consequently gives a chance to the weaklings which exist in every herd, and on this account assures a greater uniformity as a result of the quietude which it secures. In Great Britain, where the eye is used instead of the scale in measuring live weight, a dehorned bunch of cattle command a higher figure on account of their evenness and generally-improved appearance."

M. Stalker, State Veterinary Surgeon, Iowa: "I have had little practical experience in dehorning cattle, though I have had pretty extensive opportunities for noting its effects. I have made it a point to make careful inquiry into the results following the operation, as well as to get at the after-effects as to fattening qualities, etc. I find the instances of unfavorable results are comparatively few. The practice of dehorning is quite common in our State, and I think I have never talked with a farmer who had his cattle dehorned, but he spoke in high praise of its results. The benefits are particularly noticeable where large numbers are kept together, in the less amount of fighting and irritable conduct. We have some bulls on the College Farm that we have dehorned in order to make them less dangerous with their horns. The operation completely cures them of all inclination to be cross either to men or to other cattle."

Arthur Johnston, farmer and stock-breeder, Greenwood, Ontario: "Until very lately I have been violently opposed to dehorning, but the more I think about it, the more I have been convinced that it is, in very many ways, desirable. I had a young bull, about fifteen months old, with very badly up-turned horns, and just at the time your Commission was sitting in Toronto it occurred to me to try the experiment of dehorning on him. I got my veterinary and he sawed them off quickly with a rather dull meat-saw. The suffering, while the sawing lasted, was very great indeed—distressing to witness, but it only lasted about ten minutes. To my surprise there was very little loss of blood, almost none, of any account. When the actual sawing was finished the great pain seemed to subside at once, and the bull went into his stall and began to eat at once, as if nothing had happened. I watched him closely during the following six days,

and I saw absolutely no change on him, in any way. He fed quite as well, and he lost nothing in condition; but seemed to thrive, as formerly, to the full. At the end of one day and night, the appearance of the horns (parts left) was as if it had been done months ago. The bull's appearance is much improved on account of his having had bad horns. It took away that distinctive short horn character, however."

Tait Butler, Veterinarian, Mississippi Station: "To justify such an operation either the comfort of the animal or its value to man must be enhanced. If a number of animals are to be kept together in an inclosure of small dimensions, (a shed for instance,) these two objects are obtained by dehorning and, therefore, the operation is not cruelty if properly performed. Under other conditions it may be termed cruelty. I think the operation cannot be performed without producing considerable pain for the short period of from ten to twenty seconds for each horn. After that space of time the pain is certainly slight. Animals begin eating immediately after the operation, and the secretion of milk is rarely influenced to any appreciable extent. However, the manner in which the operation is performed has something to do with the amount of pain experienced by the animal. The pain, while it lasts, is as severe as that produced by castration, but it is not so long in duration, nor fraught with such serious consequences as evidenced by the absence of serious sequelæ. The structures are sensitive, but not especially so when the incision made by the saw is through the frontal bone. If made through the horn proper, the sensation is equally as great, and owing to the low recuperative powers of the part, the wound does not heal rapidly. If through the matrix of the horn the pain appears to be more severe. In other words, if the incision is made through the frontal bone so that considerable of the skin surrounding the horn—say a ring from half an inch to one inch wide—is taken off with the horn, the wound heals more quickly and the pain is less severe. To sum up, when the operation is properly performed, and with proper motives I deem it not only not cruelty, but also humane."

A. D. Stevenson, New Hampton, Mo.: "I have been a practical dehorner for six years, and during that time have dehorned nearly eight thousand head of cattle—all ages and sizes from four months old to twenty-five years—and never lost one by the operation. I prefer to do the work from six months old to one year. They suffer some while the operation is being performed, but it does not last long. They will bleed but very little if they are not hot, and the operation is performed right. Have known of some dying that were operated upon when very hot and not properly done. It will take from six to eight weeks for the wound to heal. The skull grows up sound and solid—will skin over and hair out if properly done. Once healed the head is as sound as any other part. I prefer the saw and I do not use any dressing. There is a proper place to take every horn off at. On cattle three years old and older, take off as little skin with the horn as possible, but be sure you cut on the skin all the way round. On younger cattle, take from a quarter of an inch to a half, according to age. They are worth from two to five dollars per head more after dehorning. Would rather dehorn at six months old than disbud, as I think there is less pain and better work. If you dehorn any, dehorn all. Afterwards, they feed better, water better, ship better, look better, fatten better, everything better and nothing worse. I consider the suffering is nothing when compared with the benefit."

W. T. Gardner, farmer, St. Louis Station, Quebec: "As I have assisted in dehorning cattle and also in handling them afterwards, I respectfully submit my candid opinion on the subject as briefly as possible. I was opposed to it till I saw

it tried, and I freely admit that it is a great improvement. With the proper appliances the operation is a very speedy one. After the animal is secured about half a minute to each horn (or thereabouts) and out they go, and most of them will go to eat or drink as if nothing had happened. Some will take longer to heal than others, but very few will miss a meal from the effects of the operation, and when the cattle are all in the yard together the improvement is very plain. The wicked ones, instead of spending their time chasing round the timid ones, will eat their feed and let the others eat, about the same as sheep. And with bulls the dehorning is particularly necessary, thereby lessening the danger to life and property, and I think it should be made compulsory to dehorn all bulls over a year old."

Walter H. Brown, Manager Newberry Stock Farm, Cassville, Wis.: "On the 1st of February, 1888, we dehorned eighty head, sixty-five cows, balance yearlings and two year olds. There were thirty cows giving milk and they did not seem to mind the operation, not even falling off in their milk. Those that were coming in all did well; there was not one in the eighty lost a meal or a night's sleep. In sawing off the horn you want to go close to the head, leave a little hair on the horn. There is not a farmer for miles around here but has his cattle dehorned. There is a liquid that you can rub on the young calf just where the horn starts, which absorbs the substance of the horn. It must be applied before they are four weeks old. We applied it to one of our calves last spring, and it proved effectual. I think it is nothing more than some strong acid. I would favor experimenting a little on the calf."

C. L. McComber, Deer Park, Illinois: "I am, and have been for six years, engaged in the business and have dehorned hundreds of head. The best age is at two and three years old for cattle which are to be kept for a number of years. The reason is, the nearer the horn is developed the neater and surer the object will be attained. While the operation is being performed no doubt there is pain, but it is of short duration. There cannot be any pain after, as cattle will immediately go to grazing. Occasionally some blood follows the operation, especially if cattle are in a heated condition. Young cattle bleed more than older ones. I never knew an animal to die from it. I use a narrow saw-blade about seven teeth to the inch; stand in front, hold cattle in a stanchion and use $\frac{3}{4}$ inch rope properly adjusted round head and drawn out with set of blocks, (three pulleys). I use hot tar, especially in late spring, say March or April. Saw as close to the head as you can. Chicago dealers will pay ten to fifteen cents per hundred more for dehorned cattle to send on east. There is no use in cattle having horns in a country where they are protected from beasts of prey. No one would feel safe if an insane man was running around with a pitchfork in his hands—no telling how soon he might hurt some one—cattle are the same."

A. J. Gardner, Eddyville, Iowa: "With a few rare exceptions I have never known any bad effects to follow dehorning. If the animal is in a thriving condition and the operation is properly done, it will generally go on grazing in a few minutes after being released, as if nothing had happened. The animal does not appear to shrink but very little, if any at all. I have even had cows dehorned without checking their flow of milk in the least. Some cows, however, will shrink in their milk for about a week. The exceptions are generally where the operation is unskillfully performed or where the animal is in a weak or unthrifty condition. Aside from the injuries and suffering inflicted by horned cattle on one another, I will mention one or two advantages in dehorning. In the first place they have no fear of one another and consequently will thrive bet-

ter. At the watering trough or tank two or three of the stronger cattle will not monopolise it all while the weaker ones may have to wait for half an hour or more, but all will crowd up and drink side by side like so many sheep. Likewise in winter where cattle are not stabled, but run loose in an open shed or other shelter; one-half the amount of shelter is amply sufficient, as they crowd up so much closer together, and there is no danger of the weaker ones being driven out in the storm. In the case of bulls I consider that it is especially desirable that they should be deprived of their horns. I have known of several serious, and one or two fatal accidents to happen by bulls that were supposed to be perfectly safe, which would not have happened had they been dehorned. The same reasons that apply in the case of bulls are equally applicable to all other horned cattle, only in a less positive and urgent degree. Again, when cattle are dehorned it is perfectly safe to allow them to run in the same barnyard or pasture with horses and colts, which is a great convenience, especially on a small farm."

Messrs. Reid and Ullrich, veterinary surgeons, Decatur, Illinois: "We favor disbudding at one month if possible. In dehorning there is considerable pain during the operation; some hemorrhage, but not dangerous. Any antiseptic lotion may be used as a dressing. We have not done much operating ourselves as farmers usually do it in the various vicinities at such a price that we cannot afford to compete. This illustrates the simplicity of the operation."

John A. Moore, cattle breeder, Kansas City, Mo: "I have dehorned 5,000 during the past four years. I think disbudding is the best method to pursue. In dehorning I have tried all kinds of 'special' saws and clippers, but I find a stiff back, fine-cut tenon saw the best. Knobbing is not a success nor is the dehorning of the vicious ones only. Advantages of the practice are safety, quietness, better looks, convenience in handling, economy of space in feeding. I believe it is humane to the cattle to take the horns off."

W. A. Harris, cattle breeder, Linwood, Kansas: "If a calf is to be operated upon I would much prefer the caustic potash method, which, if properly done when the calf is three or four days old, is the true solution of the question for the breeder. I might say, however, that naturally polled cattle fight among each other and cause abortion by butting, which dehorned cattle never seem to learn, and the latter are much to be preferred."

Wallace Estill, cattle breeder, Estill, Mo; "The value of dehorning depends on whether you want cattle for feeding or grazing. If wanted to graze in more than carload lots I wouldn't care to have the horns off. If wanted to feed in close lots or sheds, they should be off by all means. If scrubby, mean or coarse, it will uniform them very materially and take away largely that mean appearance so common to the scrub. I consider that any bunch of cattle looks very much neater after the horns are off."

OPPOSED TO THE PRACTICE.

C. L. Ingersoll, agriculturist, Nebraska Experiment Station: "Generally speaking I am not in favor of dehorning. I have observed more than 5,000 dehorned cattle. Knobbing or tipping is usually effective in preventing goring. In my opinion to dehorn vicious animals would be sufficient. I do not consider it a humane practice."

David McKay, secretary Brookside Farm Company, Indiana: "I performed the operation once—twenty years ago—on fifty head. I am not in favor of it. There are signs of pain during the operation and for about three weeks afterwards. After dehorning I used rosin and hemp to fill up the cavity and seared with a hot iron to stop the flow of blood. Dehorning makes cattle better for shipping purposes. I think the best way to dehorn is to use a good registered polled bull of any of the polled breeds. It spoils the look of any horned animals to take off the horns in full bloods."

E. W. Rowland, V.S., Monroe, Wis.: "It is not an operation of necessity, but one of fancy and it will only be a short time until the ones advocating it now will be ready to condemn it. First, because fat cattle that have been dehorned will not sell for as much as those that have not. Second, the horn is the ordinary thing by which the age of cattle is told, and when they are taken off this is removed and the cows will be a drug on the owner's hands when he tries to sell them. Third, they are much more trouble about the fences as they can get their head through a smaller place and will then push their bodies through and rub off their hair. If they had horns on they could not have got their heads in the hole at first. Fourth, cattle fall off in milk and lose flesh; in some cases even die from the operation. Fifth, it is a very painful thing, causing the cattle to struggle violently to get away and if they are allowed to remain standing they will throw themselves down and show in every way possible that they are suffering the most excruciating pain. Sixth, it does not offer the smallest amount of benefit to the owners or the poor brute that has to stand the suffering. A farmer not far from here had his cows' horns sawed off and then tried to sell them, and had to take less than what he was originally offered, besides losing one cow from the operation. The leading veterinary surgeons of this country and Europe say that it is unnecessary and cruel. I have never seen an animal that had been dehorned, but the information that I give is from good reliable men."

John Clay, of Clay, Robinson & Co., cattle buyers, Chicago stock yards: "Personally, I am opposed to dehorning. I cannot give you the relative numbers of dehorned cattle that come to Chicago, although it is fair to say that the practice during the past two years has been a favorite one. So far as price is concerned it makes no difference. Our buyers take hold of horned cattle just as freely as those that are polled. Some of my neighbors out on the range are taking the horns from their calves when they brand them. This is working very well and seems to be a painless operation. Still, my experience on the range leads me to think that cattle are best left with the horns on them, I admit, of course, that in the case of bulls and range cows, and such like, that are fed in yards, dehorning is somewhat advantageous, but in all other cases I consider it unnecessary and at the same time exceedingly painful and brutal under the present system."

Henry E. Alvord, director Maryland Experiment Station: "I do not favor dehorning. I have not practiced it, and my objections are, therefore, theoretical. In twenty-five to thirty-five years' experience, I never had a serious case of goring. Have tried knobbing successfully as a precaution. If by 'disbudding' is meant the removal of the horn 'button' or germ from the young calf, I know from experience and observation that it is a very simple operation, and accomplishes in the best possible way, the object of dis or dehorning. As ordinarily done, I do not regard dehorning as humane. If no horns is the object, breed polled cattle or 'dis-bud' by all means."

William Warfield, cattle breeder, Lexington, Kentucky: "I have never seen the operation performed, therefore can give no facts in regard to it or its effects of my own knowledge. After forty-nine years' of experience on a farm with all kinds of stock, I have never had an animal injured by goring, and can see no necessity for dehorning."

C. A. Goesmann, director Massachusetts Agricultural station: "I do not consider dehorning a desirable practice. I do not see how it can increase the value of cattle. I regard knobbing or tipping as quite successful in preventing goring. Disbudding would be better than dehorning, or, at most, vicious animals might be dehorned."

AGRICULTURAL STATIONS.

THE RESULTS OF DEHORNING EXPERIMENTS CONDUCTED IN UNITED STATES
EXPERIMENT STATIONS.

Following will be found the results of dehorning experiments conducted at the Wisconsin, Arkansas, Minnesota and Cornell University Agricultural Experiment Stations, and as the effect of the operation upon the health of the animal as well as its effect with regard to the milk flow and the weight were carefully noted, the conclusions arrived at will be found of value. An interesting article is also appended, showing the effect of a chemical compound on the budding horn.

EFFECT OF DEHORNING MILCH COWS ON THE PRODUCTION OF MILK AND BUTTER.

In the fifth annual report of the Wisconsin Agricultural Experiment Station, Mr. F. G. Short gives an account of some dehorning experiments on March 16, 1888, from which the following is taken:

Twelve cows, in groups of four each, were selected from the herd and confined by themselves. As it was natural to suppose that the change in the milk, if any, would be most marked with cows giving rich milk, the cows selected for the first experiment were grade Jerseys giving milk with an average fat content of between four and five per cent.

The cows were led into the stable one at a time and secured in a common stanchion, as though they were about to be milked. A halter was put on, the head drawn up as high as possible and turned to one side. With a sharp saw the outside horn was removed; the head was then shifted and the other horn taken off.

All of the animals struggled, but not violently; and in no case did a cow throw herself, or make any cry as of pain. As soon as the horns were off the animal was released and bran was immediately offered them to see if they would accept food. Sylvia was the only one who refused to eat. The loss of blood was very small, especially with the older cows. Daisy 2nd was the only animal from whose horns the blood spurted. In her case a fine stream of blood spurted from her left horn, nearly two feet, the flow lasting about fifteen minutes. The rest of the cows did not bleed enough to cause it to drop from the head.

To prevent irritation to the wound by the animal striking her head against the side of the stanchion, the cows were afterwards tied with halters, the stanchion being left open. Four days after the dehorning, March 20th, there was a slight discharge of pus from Sylvia's left horn; also from Jessie's right horn. Aside from this discharge, the wounds healed rapidly and at the present time are perfectly healed.

It is a well known fact that comparatively slight causes will have a marked effect on the milk production of the cow. We might expect therefore that dehorning would have an immediate effect on the quantity and quality of milk produced, after the operation, when compared with that produced before dehorning. In this case, with one exception, the average daily yield, the weekly yield per cow and the total amount of milk given by the twelve animals is less in the

period after dehorning than in the six days preceding the operation. This shrinkage may be due to two causes: first, the natural shrinkage of the milk yield, and second, the shrinkage caused by dehorning. From records extending over twelve years and including over 100 cows, Dr. Sturtevant, of the New York Experiment Station, calculated that the natural falling off in milk for each month from calving is about 9 per cent. of the yield of the preceding month. Applying this rule to the above figures, we see that the natural falling off in milk would be very nearly 21.20 lbs.

If, then, the cows had not been dehorned, they would under normal conditions have given 1,156.92 lbs. They actually did give 1,101.49 lbs. We have then the loss of 55.43 lbs. of milk as a result of dehorning twelve cows; or a loss per cow of 4.62 lbs. of milk in six days.

On the other hand, as a result of dehorning, we have a gain of 2.4 pounds of butter fat. This is an unlooked for result, but it serves to confirm the fact that any disturbance of a cow's condition is shown in a marked manner in the yield of milk and butter. Also, that from this experiment we cannot draw any conclusions as to the effect of dehorning on the yield of butter. Further experiments must be made before we can decide this point.

There was an average rise in temperature of only a fraction of a degree, a result as easily brought about by the preliminary handling as by the actual dehorning.

Conclusions.—We have, then, as a result of dehorning twelve cows: first, a slight falling off in the milk yield; second, an increase in the fat, and third, an increase in the temperature of the animal denoting a slight degree of fever for a few days after the operation. While these results are not conclusive, yet they indicate that dehorning a well fed, healthy cow is not by any means a serious operation, and unless further experiments show a more marked injurious effect on the animal than the one given above, the question of dehorning cows will depend entirely on the practical advantages to be derived from it. If by dehorning we can insure an economy in feed and storage as has been claimed, and if at the same time there is no perceptible falling off in quality and quantity of the milk; then the operation will be one of personal convenience. One thing should, however, be taken into account, and that is the condition of the animal. A cow that is poorly fed, or out of condition is certainly in no condition to undergo an operation of any sort, nor will there be any benefit derived from it. The question of injury to the constitution or temperament of the animal can only be settled by experiments on a large number of animals extending over several years.

A FURTHER EXPERIMENT.

In the report of the following year for the same station (Wisconsin), the results of a further experiment are given as follows by Prof. S. M. Babcock, chief chemist:

In the fifth annual report of this station Mr. Short has considered the effect of dehorning upon milk production, the results of his experiments being that there was scarcely any change either in yield of milk or its quality. In his experiment the cows were dehorned before noon, several hours before milking, so that they had considerable time to recover from the excitement occasioned. From what is known concerning the susceptibility of a cow to very slight changes in the conditions under which the milking is performed, it is probable

that the effect of dehorning upon the milk would be most marked if the cow were milked immediately after the operation and while she was still excited by it. An opportunity for testing this was offered this last spring when it was decided to dehorn the remainder of the station herd. There were at this time ten cows to be dehorned, all of which were giving milk. The cows were dehorned April 24th, in the evening, just before milking. All of the cows were dehorned before any of them were milked. The time intervening between the dehorning of the first cow and the beginning of the milking was about one-half an hour.

There was a very marked difference in the behavior of the different cows, some of them being scarcely affected, while with others the effect was decided. With all the cows that fell off either in yield or quality, there was at the following milking an improvement, this being more marked in the per cent. of fat than in the yield of milk. In some cases this was sufficient to entirely obscure the immediate effect. The same tendency was observed in Short's experiment, in which the falling off in the milk was more than compensated for by improved quality so that, although giving less milk in the week following dehorning the total yield of fat was larger than before. It is probable that the slight fever which followed the operation, as shown by the temperature of the animal, may have caused the milk to be somewhat richer in fat. That something of this kind may occur is shown by tests made at the New York Experiment Station at Geneva of milk from cows that had been upon the cars for two or three days, the first milking afterwards being abnormally rich. In another case where cows had become feverish from improper food a similar effect was produced. In the dehorned cows, whatever the cause may have been, the effect was not permanent, both the yield and quality having reached the normal amount by the end of one week, by which time also the temperature of the animal had become normal.

It is interesting to note in this connection, the effect of excitement caused by dehorning upon other cows that were in the stable when the operation was performed. A few of these cows were where they could see the operation, while others only came in contact with the dehorned cows after the horns were removed. None of the cows bellowed when the horns were being removed, and only two of them struggled violently. The feed for all of the cows was the same, and no cause is known which would affect the yield of milk except sympathetic excitement caused by contact with the dehorned cows, and yet the milk yield of these cows was diminished almost as much on the evening that the dehorning was done as was that of the dehorned cows. On the following morning these cows gave about their usual amount of milk.

Usually when cows have been dehorned at the station, the operation has been performed in the morning, several hours before the next milking. By examining the milk yield for the milking following, we find no falling off in the yield for the cows not dehorned, showing that, in those cases, any excitement occasioned by the dehorning had either subsided or had failed to produce the result corresponding to that in the experiment mentioned above. The fact seems to be that excitement of this kind rapidly subsides, and does not affect the yield of the cow if she has become quiet before milking.

ARKANSAS EXPERIMENT STATION.

The fifth bulletin of the Arkansas Experiment Station, issued in August, 1888, gives the results of a dehorning experiment made under the directions of Mr. Albert Menke. It states :

The subject of dehorning having become one of great interest, we undertook a series of careful experiments with a view to clearly observing the pathological changes produced in the animals, and also to notice what effect the operation had upon the composition of the milk. From the result it is obvious that the milk

PLATE I. SECTION OF HORNS AMPUTATED AT BASE.

FIG. 1.

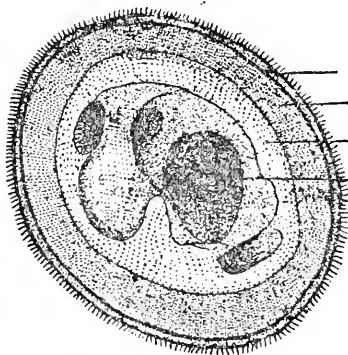
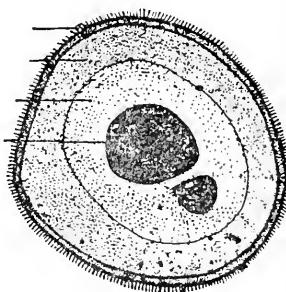


FIG. 1.—Cow three years old.

FIG. 2.—Cow four years old.

FIG. 2.



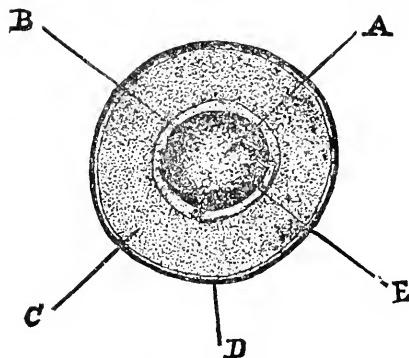
A.—Epidermis.

B.—Corium.

C.—Bony core of horn.

D.—Cavity of horn core.

PLATE II. SECTION AND SIDE VIEW OF HORNS OF CALF FOUR MONTHS OLD.



A.—Cartilaginous horn core partly ossified.

B.—Its periosteal covering.

C.—Corium.

D.—Epidermis.

E.—Artery.

did not materially change in the proportion of fats to solids not fat. The physiological results were observed by Dr. Dinwiddie, while the chemical analyses were made by Messrs. Twombly and Collingwood.

Amputation of the horns was performed at this station on seven subjects, in

all of which the physiological condition of the animals was noted for some time prior and subsequent to the operation, while two were under special observation with reference to the effect produced on the milk secretion.

The animals were all kept, as nearly as possible, under similar conditions before and after being dehorned, in order that whatever changes might be observed could reasonably be regarded as effects produced by that operation.

Cow No. 1, four years old, native stock, arrived on farm June 18th; was weighed and examined as to temperature, pulse and respiration every third day till July 5th.

The record shows a steady decrease in weight from the day of arrival up till the 26th of July, while the average temperature was 102.5° F. The pulse and respiration in cows vary so much under the influence of digestive and other physiological processes, as well as external conditions of temperature, etc., that they cannot in general (at least so far as their frequency is concerned) be regarded as much diagnostic value.

July 5th cow No. 1 was secured in stanchion and horns amputated by knife and saw. Slight bleeding occurred from two small vessels at the anterior part of the stump, but soon ceased spontaneously. After sponging, the wounds were covered by carbolized cotton and a bandage applied.

July 9th the bandage was removed and new dressings applied. The discharge was slight and healthy in character. The parts after this were smeared with grease to prevent adhesion of dressings, the outside of bandage being also covered with tar ointment to prevent the attacks of flies. The wounds were sponged and dressings renewed every five or six days.

Granulations began to spread and narrow the openings in the stumps in about two weeks after the operation, while the discharge gradually diminished in a month.

June 9th a calf four months old with horns projecting about one inch, base broad and movable, was thrown and feet tied together with a rope. A circular incision was made around the base, and the horn along with the spongy bone tissue beneath, to the depth of about one-quarter inch, removed by an ordinary bone gouge. Hemorrhage was repressed by tincture of iron and the parts covered by cotton and bandage. After the first dressing they were left uncovered and merely smeared with tar ointment. There was little discharge from the wounds and healing ensued in about six weeks.

June 20th, calf six weeks old, horns about one-half inch long, soft and freely movable, was thrown down and held with head on the floor, and the embryo horns taken out, along with some of the bone beneath, by means of a circular gouge—the ordinary punch formerly used for cutting gun wads. This instrument, when sharp, answers every purpose for the operation on calves.

There was but little bleeding or struggling, and the whole proceeding did not occupy more than three minutes. The holes were covered by cotton, without any bandage. So far as could be observed, the operation on these two calves produced no effect on their appetite or weight. The wounds necessarily suppurate and take several weeks to heal, but the operation is less serious and much more easily performed than on the older animal, and the ultimate result equally satisfactory.

In the case of the first two cows there was a gradual and constant loss of weight, both before and after dehorning, which was probably due to change or

deficiency of pasture or to excessive heat, causes which were in operation throughout the whole experiment. No part of this loss can, therefore, with certainty, be attributed to the operation of dehorning.

The appetite of the cows was not at any time interfered with.

The degree of fever, indicated by the thermometer, showed in one case a rise of temperature to 105° F. The normal temperature of cattle (taken in the rectum) may be placed at 102° F.

Although these experiments were conducted in the fly season, and therefore under unfavorable conditions, the results show that amputation of the horns, either in calves or grown animals, is followed by only slight constitutional disturbance.

So far as has yet been observed removal of the horns has no effect in deteriorating the quality of the milk.

From our analyses it is seen that the butter producing elements of the milk are not diminished while the cows are suffering from the effects of the operation, and it is even less likely that this should occur after they have recovered.

The practice of dehorning, however, is always open to the charge of cruelty, and on this account is not likely to ever become general.

The operation on calves is less objectionable in this respect, and should always be preferred to the more serious and painful operation on older animals.

It is best performed when the calves are from three to seven or eight weeks old, soon after the horn shows itself above the skin. Removal of the small movable button of horn is not sufficient to prevent further growth, but part of the soft, spongy bone beneath should also be removed. The circular gouge before mentioned is the only instrument necessary. By a rotatory movement the skin is cut down to the bone around the base of the horn, and by depressing the hand and slight lateral motion the bone is easily removed for a sufficient depth.

The skull wall is, at this age, solid at the base of the horn and very thick, soft osseous tissue filling up the space which afterwards, by absorption, becomes part of the frontal sinus. Bleeding usually ceases spontaneously; if excessive, it may be controlled by cold water or pressure by pad held in place by a bandage.

The only after treatment is to keep the part clean by occasional washing with an antiseptic solution, such as carbolic acid, one part to fifty of water.

Dehorning, after the fourth or fifth month must be done by the saw, as the horns are then usually too large to admit the use of the gouge.

The method of restraint found to be most satisfactory in these experiments was by the use of a stanchion constructed in the usual manner, the neck being imprisoned between two vertical pieces of two by four scantling. In order to restrain the movements of the head the end of a long $\frac{5}{8}$ inch rope was converted into a halter. This is done by making a small loop on the end of the rope. After laying this over the neck just behind the ears, the rope is doubled about three feet from its end and the doubled portion passed through the loop from behind forwards and drawn tight over the nose. The head was then drawn close to the second upright of the stanchion on the right to which the rope was fastened by several turns around it, the remainder being carried over the neck and secured to the second upright on the left.

By this means, although the head was not absolutely fixed, sufficient steadiness was obtained to allow free working to the saw on both sides.

Amputation may be performed by the saw alone, but the use of the knife at the first and last points of the operation causes less pain to the animal and leaves a cleaner cut surface.

The best time to operate is in the spring, fall, or winter. When a large number of cattle are dehorned at one time they should not be kept crowded in the same stable.

Although our experience with dehorning is insufficient to warrant us in recommending the practice on any extensive scale, the results of these experiments must be considered as favorable to the operation when performed on suitable subjects.

The conclusions arrived at may be thus formulated:

- (1) The operation requires some care, but is not difficult or dangerous.
- (2) The wounds heal favorably as a rule, although in exceptional cases and when the operation is improperly performed, continued suppuration and chronic inflammation may ensue and seriously interfere with the health of the animal.
- (3) In cases that progress normally, from three to four months may be given as the time which elapses before complete healing occurs.
- (4) When amputated at the proper place the horns do not return.
- (5) The constitutional disturbance is not severe, and is manifested by a slight and temporary rise of temperature, with probably, in most cases, a slight decline in weight and milk secretion, lasting over the first week or so.
- (6) The quality of the milk is not injuriously affected.
- (7) The operation must be considered painful, but there is no evidence that the pain is excessive after the operation is over.

On calves we conclude that—

- (1) The operation is less painful than in adults.
 - (2) When removed as above directed the horns do not return.
 - (3) There is little constitutional disturbance manifested.
 - (4) When the animal is healthy the wounds heal favorably in about six weeks or two months.
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CHEMICAL COMPOUNDS FOR PREVENTING THE GROWTH OF HORNS ON CATTLE.

In the eighth annual report of the Agricultural Experimental Station of the University of Wisconsin, for the year ending June 30, 1891, the following article, on the Removal of Horns by Chemical Compounds, is contributed by Leslie H. Adams, Farm Superintendent.

The chemical compounds prepared by Mr. John March of Shullsburg, Wis., and by Messrs. Lewis & Bennett of Bloomington, Wis., have been tried at the Station with satisfactory results. They were tried on a number of calves at different ages during the fall of 1889, with a view to obtaining definite knowledge as to the manner and proper age of application. It was found in a majority of instances that the best results were reached when the compound was applied as soon as it was possible to locate the little horn button on the calf's head, which usually can be done when it is but three or four days old. From our experience it would seem that the dehorning compound should be fresh, and the

contents of the bottle well mixed before using; otherwise only partial success may be reached. The hair should be clipped from about the embryo horn with scissors, and the chemical applied with the rubber cork, wet with the fluid, and rubbed hard over the button until it has penetrated the horn germ. When the germ has become soft, having an inflamed appearance, sufficient material has been applied. Care should be taken that no fluid runs down the calf's head, for the material is very caustic.

In our tests, in several instances, the fluid was applied to but one horn button, the other being left untreated. The effect usually was to entirely stop the growth of one horn, while the other grew naturally. The calves were sold to a farmer not far distant, who agreed to keep them until grown that we might see the effect of the treatment. Fig. 35 was redrawn from a photograph of a grade Jersey heifer at two years of age, showing that the right horn, to which the com-



FIG. 35.—Head of 2 year old grade Jersey heifer, showing effect of using chemical dehorner in preventing the growth of the right horn.

pound was applied, never developed. Fig. 36 shows the left horn (with the shell removed) naturally developed, while the right side of the head to which the chemical was applied has not only failed to develop the horn, but even the heavy base which grows out from the skull to support it. This failure to develop not only the horn but its natural support, raises the query of whether a hornless race of cattle could not be developed by using the dehorning compound for a number of generations.

In advertisements of chemical fluids it is often claimed that the application is painless, but our observations do not coincide with any such statement. The application of a fluid powerful enough to destroy so large a surface as the button on the calf's head must produce a great deal of pain, and the calves show this by

nervous movements of the head and attempting to rub the irritated spot. From our experience in applying the liquid and also in cutting out the horns with instruments, we believe that when used the fluid should be applied to as young calves as possible, since the older the calf grows the more it seems to suffer when the horns are removed.

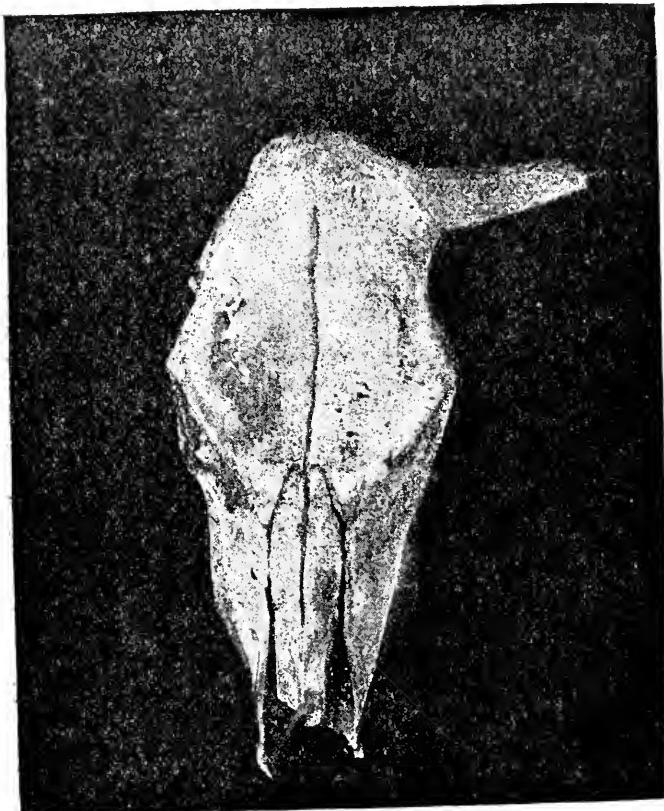


FIG. 36.—Skull of another grade Jersey heifer, showing how by the application of chemicals, the horn and the base of the skull which supports it, have failed to develop.

CORNELL UNIVERSITY STATION.

The agricultural experiment station in connection with Cornell University gives the following account of a dehorning experiment in its 37th Bulletin, December, 1891 :

We have received so many inquiries in regard to this practice that it has seemed worth while that we should give a brief outline of our experience in this bulletin. We have made it a practice, for the past six or seven years, to dehorn our cows as soon as they come into the dairy, and at the present time there is no animal having horns on the farm. While for the most part the horns have been removed by students and others who have never even seen the operation performed, we have as yet to meet the first case where there has been any ill effect

following the operation. The last time the operation was performed was on Nov. 5, 1891, at which time, among others, five cows in milk were dehorned. Three of these were heifers under two years old, two were mature cows that had been purchased in the neighborhood; all were comparatively fresh in milk. One had only been milked six days. The cows dehorned were very little affected by the operation, with the exception of the cow Pandora. She fell off three pounds upon the day on which she was dehorned, and six pounds more on the following day, after which she nearly regained her normal flow. The variations in the case of the other cows were extremely trivial, and some of the cows not dehorned varied quite as much, and that, too, on the same days. The average variation of the five dehorned cows was a little less than four pounds in the whole period of eleven days, while the average variation of the seven cows not dehorned in the same period was nearly six pounds. This was undoubtedly due to the fact that the average milk yield of the seven cows not dehorned was considerably greater than that of the five dehorned cows, but it shows that the operation of dehorning did not cause at least any greater daily variation.

So much for the immediate effects of dehorning, now as to the time required for recuperation. We find that there was an average daily loss of a little less than one-half a pound for the five cows dehorned, but in the same time the seven cows that were not dehorned gave seven-hundredths of a pound per day less in the last five days. It would seem, then, studying the milk yield in all its relations that the loss in milk yield when cows in milk are dehorned is insignificant.

The only requisites for successfully performing the operation are that the animal's head should be securely fastened and the operator possessed of courage and a sharp saw. We have ordinarily used what is known by carpenters as a "cut off" saw, that is a small flexible saw with rather fine teeth, others have preferred to use a stiff back saw. The horns should be removed from the head so as to take with them a few hairs all the way round. It is usually of advantage to clip off some of the hairs about the base of the horn with a pair of shears, and before beginning the operator should examine the horn and get his bearings, so that when once the operation is begun no stop need be made until the horn comes off; ordinarily but very little blood is lost in the operation, some animals, however, will bleed considerably, and very rarely it is necessary to bind a rag smeared with pine tar over the stump to stop the bleeding. Animals under three years old that are in good flesh and thrifty growing condition are more apt to bleed freely. It is not necessary that any application be made to the stump, but we have thought it of advantage to apply a little carbolated vaseline; this is chiefly of benefit in warm weather in keeping away flies. Usually the wound heals up without suppurating, but in about one case in ten some pus will form. We have found it of advantage in such cases to bind on a rag smeared with pine tar as before described.

MINNESOTA EXPERIMENT STATION.

Bulletin No. 19, March, 1892, of the agricultural experiment station in connection with the University of Minnesota, gives the following account of a dehorning experiment conducted by the Director, Mr. Clinton D. Smith, and the Professor of Dairying, Mr. T. L. Haecker:

Last summer it was decided by the Regents to place upon the station farm a herd of good dairy cows, selected from natives, thoroughbreds and their grades

In carrying out this purpose some twenty-five cows were purchased during the month of October, and shipped to the station. When they were let into the yard it was noticed that the larger cows drove the smaller from feed and water, and often prevented their drinking unless protected by the attendant. It was apparent that unless some means could be devised to prevent this, serious losses would occur from irregular feeding and drinking and by premature births.

It was decided that the quickest and most effectual remedy was dehorning. This is, by many, considered a questionable practice, because of the pain inflicted during the operation. In order that the immediate effects might be studied a comparison was made of the daily yield of milk and per cent. of fat, before and after dehorning. These results were compared with the record of a number of cows not dehorned, but which saw the operation and smelled the blood.

The cows, Franc, Roxy, Sully, Gran, Clara and Crossy, were over five years old, and Patsey, Rossie and Bettie, over four years, these were dehorned on the ninth of November, 1891. They were fastened in a stanchion, the head drawn forward by means of a halter and small tackle blocks until the neck was extended to its full length, so that the horns were sufficiently far from the stanchion to permit the free use of the narrow bladed butcher's saw which we used.

The time occupied was about five seconds per horn; as soon as the horns were removed pieces of cotton cloth smeared with pine tar were placed upon the wounds. Care was taken to saw the horns inside of the outer edge of the skin, removing with the horn a narrow strip of hair. During the operation the cows gave every indication of intense suffering but upon being released no sign of pain was visible. The wounds healed rapidly without any other application than the tar.

By comparing the yield of milk of the cows dehorned with that of the cows not dehorned it was found that the former gave 22.2 lbs. less during the three milkings after being dehorned, the latter losing 6.2 lbs. The dehorned cows shrinking seven per cent. while the others lost three per cent.

Comparing the total fat products of these two groups of cows for the same periods we find a much greater discrepancy, the horned cows showing a shrinkage of only three per cent. while the six cows not dehorned lost eleven per cent. It would appear from these observations that while the operation of dehorning may cause a slight temporary variation in the flow of milk and fat content the normal flow and per cent. of fat is quickly recovered, and that cows only seeing the operation and smelling the blood show a greater shrinkage in fat than do the ones dehorned.

DOMINION EXPERIMENTAL FARM.

In the report of the Dominion Experimental Farm for 1891, Prof. J. W Robertson writes as follows:

On 3rd December the operation of dehorning was performed on 4 three-year old steers, and on one Jersey bull five years old. Through questions which have been asked at conventions and farmers' institutes, and by letters which have been received, an opinion has been asked repeatedly during the past two years upon the subject of dehorning cattle. Farmers who have sufficient open-shed or closed-in-shed convenience for the fattening of steers if they could be allowed to run loose with safety, have made frequent applications for information. The practice has become common in many of the States of the Union. The references which have been made to it in the columns of the agricultural press provoked further curiosity and interest on the part of Canadian

farmers, to learn from some authoritative source in Canada what effect the operation would have. The mode of procedure was to put each steer into the sling which we use for lifting the bulls when the hoofs are to be trimmed. The neck was fastened securely between two upright pieces of scantling, one of which was movable at the top, after the style of the common old-fashioned stable stanchion. The head was then tied to one side. The hair around the base of each horn was clipped off, to permit the cutting to be effected in such a way as to remove a narrow ring of skin with the horn. Leavitt's dehorning machine was used on two horns. It is constructed in such a way as to clip the horn off at one snap. In the case of three-year-old steers, the horns were too hard and tough for one man to use the machine with sufficient quickness of motion. For the other horns, a common fine-tooth carpenter's saw was used.

The operation on each horn lasted from one quarter to one half of a minute. In the case of two of the steers, the saw cut through an artery, from which a small jet of blood spurted. The wounds on the heads of two of the steers appeared to be acutely painful for nearly a week; the other two animals did not appear to suffer any inconvenience after the operation was ended. It was not expected that blood would flow so freely from the wounds as it did in the two cases mentioned, and no particular preparation had been made to staunch the flow at once. A cloth covered with coal-tar is probably one of the most accessible and suitable applications which can be made on the ordinary farm. The steers have been fed in box stalls, running loose in pairs, and they seem to be most healthy and gentle since the wounds healed.

In the case of the Jersey bull, he had become so vicious that the attendants went into his box-stall only at the jeopardy of their lives. Instructions had been given several months previously that no one was to go into his box-stall until after he had been securely tied. For the dehorning operation, the bull was tied in a similar manner to the steers. His horns were sawn off as close to the skull as possible. Not a thimbleful of blood altogether was shed; and when he was turned loose in his box-stall he acted as mildly as a sheep.

HORNS AND THEIR RELATION TO MILK AND CREAM.

In an interesting paper on "Horns and their Relation to Milk and Cream," read last year before the annual meeting of the New York State Agricultural Society, Dr. James Law, of Cornell University, says:

Horn is made up essentially of gelatine or glue, which also makes up the substance of hair, of sinew, and the non-earthly part of bone. The analysis of gelatine, of hair and of horn, show only the slightest shades of difference.

In both hairs and horn there is a minute quantity of iron and a trace of fat, but too little to be of any importance. In the fibrous structure of bone, in hair and in horn, there is one material, and if the abstraction of this material from the blood for the formation of horn affects the constitution of the blood so as to favor the secretion of milk, then its abstraction for the formation of bone, sinews and hair, must be equally effective in increasing or improving the milk yield. But large bones and sinews have never been found desirable qualities, either in beef or milking breeds. Indeed, the reverse is notoriously the case, as seen in the spare forms and delicate limbs of the Jersey, Guernsey, Alderney, Ayrshire, Swiss, Brittany, and, indeed, all the exclusively milk and butter breeds. Even in the Shorthorn and Holstein cow, which are at once milking and beef animals, the

smallness of bone in relation to the abundance of muscle and fat constitutes a point of peculiar excellency. On the contrary, who has ever heard of large yields of milk from the breeds of heavy bone and sinew, the Texans, Hungarian or Steppe, the native White cattle of England, or the more modern Longhorned breed?

Then as to the hair. Does the full yield of milk and butter coincide with the great development or more active growth of the hair? The milking breeds which I have named are remarkable for the fineness of the hair, and the thinness, softness and pliancy of the skin, which is another structure almost entirely made up of gelatine. Again, the period of the rapid growth of hair is in autumn, and that of its greatest length in winter, but the largest and best yield of milk and butter is in spring and summer, when the cow has just come in, when the feed is best, the weather warmest, and the growth of hair least. Obviously the effect of the growth of hair on the blood, and the yield of milk, is of no account, if indeed the excess of hair is not absolutely detrimental.

As if to exclude the idea that the horns can have any favorable influence on the secretion of milk or butter, it is notorious that all, or nearly all, the long-horned breeds of cattle are poor dairy cattle. Among the domesticated cattle in America, the Texan stands out as a prominent example. While the horns are large enough to have given rise to the hyperbole of "packing the steer in his own horns," the milking, like the fattening qualities, are at the lowest ebb, and the useless brute is rapidly giving place to those breeds that prove profitable for beef and milk. His ancestor, the old Spanish ox, has precisely the same characteristics, though living on the other side of the globe. The Algerian, Hungarian and Podolian cattle all show this quality of horns of enormous length, and none of them yield milk in excess of what is needed for the calf. The ancient cattle of the British Isles, the white cattle of Chillingham, the black Scotch Highland cattle, and the longhorned Irish and English cattle, are alike remarkable for development of horn, and paucity and poverty of milk. Among the more modern breeds, the English Hereford stands out as a splendid beef animal with magnificent horns, but a small yield of poor milk. It may be objected that all these excepting the English Longhorns and Herefords, are unimproved breeds, and that a heavy milk and butter yield is not to be expected of them. The answer is ready: In spite of or by reason of this neglect, they have developed most extensive and artistic horns, and if the development of horns has any effect in increasing the yield of milk and butter, this selection and survival of the horns should have preserved at least a fair yield of milk. But the exact opposite has been the result. Among cattle with somewhat shorter horns, there are some fair milking breeds. I may name the Devons, the Pembroke, the black Welsh and the Kerry. The last is indeed an admirable milker considering its size, and the others, though not heavy, milkers, yield in the main milk rich in butter.

Coming now to the breeds furnished with short horns we meet with those that are pre-eminently the best milkers. Of these the Ayrshires, the Shorthorns and the Holsteins need only to be named. All have been long famed as milking breeds, and though to-day many of the most improved Shorthorns have apparently lost the quality of milking, it has not been because of any shortening of the horns, but because of feeding exclusively for fat, which has led to fatty degeneration of the muscle as well as of the udder. The Shorthorn was originally and may still be made a splendid dairy cow. The main prerequisites are to feed upon products that contain no excess of fat, starch or sugar, and to furnish all food in an aqueous condition. Among the cattle with short horns have still to be named the Flemish and Norman, the latter of which was once called the best milk cow in the world, the Alderney, Guernsey, Jersey and Swiss, all animals

with small horns and all famous not only for the abundance of their milk, but for the quantity and quality of the cream.

If I refer finally to the Polled or Muley breeds it is only to substantiate my position that the horns have no important influence in connection with the milk and butter yield. The Polled-Angus is to-day a poor milker, but it is so for the same reason that the Shorthorn is so. It has been selected and fed so persistently for early maturity and rapid fattening that the disposition to yield milk has been superseded, and it is to-day an exclusively beef breed. But it was not always so, and in the early part of this century the Polled-Angus was quoted as yielding from fifteen to twenty quarts of milk daily, and remarkably rich in cream. The Galloway is quoted as yielding six to fifteen quarts daily, which produced from three-fourth pounds to one and one-half pounds butter. The polled Norfolk and Suffolk on the richer pastures of England yield as high as thirty quarts of milk a day and this is unusually rich in butter.

While therefore the polled cattle can not be claimed as the heaviest milking breeds, they have proved themselves excellent milkers, when selected and fed to develop this quality, and in place of the lack of horns determining a watery milk deficient in cream, they have always been remarkable for the relative abundance and richness of the cream. I am not advocating the polled cattle as dairy stock. Some horned breeds, like the Channel Island cattle, are far in advance of them, alike in the yield of milk, in relation to the size of the animal and in the relative amount and richness of the butter. But they are not doomed as dairy breeds because of the absence of horns, as the past record of the Angus and Galloway, and the present record of the Suffolk sufficiently testify.

We have seen, moreover, that the longhorned races of cattle are pre-eminently the poor milkers, while the palm for abundance and richness of milk rests with the breeds with small and short horns. But neither long or short horned, nor polled heads are any guarantee of the milking characteristics of a breed nor of an animal. The horns are absolutely unimportant in this connection and the conditions which influence the milk and butter yield must be looked for elsewhere.

System and habits affected by removing the horns.—While we have seen that the size of horns or their entire absence has no necessary effect on the milk secretion, it can not be allowed that the removal of the horns has no effect on the animal or its secretions. The results may be divided into immediate and remote. The immediate results are first the shock occasioned by the removal of the horns from an adult animal, and the inflammation that ensues on the seat of the operation. Now these acting on a cow in the full flow of milk will necessarily produce an immediate diminution in the flow of milk. How considerable and how prolonged such decrease of flow will prove, will usually be determined by the special nervousness and irritability of the animal and by the existing state of health and purity or impurity of the surrounding air. In a very susceptible animal the effect of the shock may be greatly prolonged. In an irritable subject the wounds may heal badly, and the same may result from its exposure to extreme cold or to poisonous material in the air or elsewhere. The effect of such unhealthy inflammation in the wound may be to a certain extent permanent, as the ill health brought about in this way may permanently impair the action of the udder.

The other remote effects are mainly connected with the new habits acquired by the animal.

First. A dehorned cow left in a herd, any of which retain their horns, is abused and driven about at the will of the latter. The exclusion from desirable food and the constant apprehension and excitement in which a dehorned nervous

animal is thus kept can not fail to materially reduce the milk yield, and to use up in the process of breathing the carbonaceous matter which would otherwise have been devoted to the production of butter. It is wisdom, therefore, to "go the whole hog or none" in this matter—to dehorn all the animals kept in the same herd, or to leave all in their natural state. To leave a few dehorned cows in a horned herd and then to complain of the reduced yield of the former is utterly unreasonable. The timid and abused animal in a herd can never reach its full possible yield, and the mingling together of horned and dehorned cattle can only have the effect of impairing the milk secretion of the latter.

Second. The removal of the horns, by removing the possibility of successfully attacking other cattle, obviates the disposition to attempt such attack, and fosters a placid, equable, restful disposition. This disposition is of high value, especially in beef breeds and hardly less so in dairy cattle. It lessens at once the nervous excitability, the muscular activity and the breathing, and in so doing diminishes the expenditure in these directions of the albuminoids or cheese-producing principles and of the carbonaceous or butter and sugar producing principles. If the materials thus economized could be all devoted to the production of milk the dehorning would be an unalloyed gain for the dairy. But in this case as to the selection of docile, horned animals, the tendency is not all to the production of milk, and unless great care is taken in feeding and management, it is liable to be turned largely to the production of beef, as has happened to the Shorthorns and Polled-Angus cattle. What then? Must we avoid animals that have at once a placid disposition and a good digestion? Assuredly not. These two qualities are fundamental to all improvement in stock, and to the preservation of all good qualities in dairy or beef stock. It is the duty of the stockowner to guard against any evil that may threaten in connection with these good qualities. The domestication and improvement of stock always introduce a series of drawbacks. If we neglect to watch for and counteract these, our improved stock will perish under our eyes, or more commonly retrograde toward their original poor condition. If we want merely to keep around us the hardiest and most vigorous of animals, let us go back at once to the Texas cattle or to the buffalo of the plains. But hardy as such stock is, it would not in these northern States furnish us with a living. We must, therefore, take our improved stock with all their weakness of constitution, their inability to bear exposure and privations, their lack of natural protection instincts, their helplessness as calves, and their predisposition to diseases of the vital organs in age, their tendency to fat rather than milk, and all their other drawbacks, if we would secure a livelihood from keeping stock. The more highly cattle are improved the greater the vigilance required to keep them in that straight course of improvement which will be most profitable to us. Eternal vigilance is the price of profit, and if we fail to exercise that, we must look for discomfiture. It is a compliment to the dehorned cow to say that she has a tendency to run to fat. It shows that she has been started so far on a course of improvement, and just as in the case of the Shorthorn which was for so long the standard of all excellence in cattle alike for the dairy and abattoir, we must retain the milking qualities by an aqueous and albuminoid diet, and stimulate the functions of the gland which yields the golden product. I don't stand here to advocate dehorning. I merely aim at a review of the subject in its physiological bearings, and at furnishing the most prominent reasons for and against as viewed from this standpoint. At the same time I am an uncompromising enemy of pointed horns and of the suffering and loss which they occasion. I do therefore strongly advocate a resort to some means of removing the evil. Let the horns be cut square off as far from the points as you can without injuring the quick, and their power for evil will be practically

abolished. Or let a large knob of hard wood or metal be put on the point of each horn and fixed by a peg or screw. Or remove the horns altogether, either as calves or later before the cow comes into milk. Any one of these courses judiciously carried out will be profitable, provided it is followed by intelligent feeding and management.

Reviewing all the evidence, and considering the weight of testimony showing the increased value and improved conduct of dehorned animals, the Commissioners do not feel that they would be justified in recommending that the practice be prohibited. Taking the advantages into consideration—to the owner, the community at large, and the animals themselves—we have come to the conclusion that the pain inflicted is not out of proportion to the results attained.

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CONCLUSIONS.

It seems to be established beyond reasonable doubt that dehorning, by effecting a change in the disposition of the animal, greatly increases its marketable value, besides enabling the owner to handle his stock with greater ease, economy and safety. This increased value is made up in a variety of ways : In the case of steers raised for the export trade, the owner is enabled to feed loose in large stables and adopt improved methods of saving manure, and, as the unruly disposition has been largely subdued, less food is required in bringing the animal to a prime condition. The stock can also be cared for by fewer men. It was claimed by witnesses in the British trials, as well as before the Commission, that on the English market buyers give about \$5 per head more for dehorned animals, owing to the belief that they put on flesh better. Farmers and butchers also testified that they suffered serious loss from the cattle using their horns upon each other. The same advantages in the care and management of dairy stock were claimed by practical dairymen after one or two years experience, and experiments conducted by the agricultural stations amply justified their contention that, so far from being seriously interfered with, the milk supply was improved in every way as a result of the operation.

Outside of any financial consideration we have to consider the comfort of the animals themselves. The Commissioners were much impressed with the evidence that the removal of the horns prevents a good deal of suffering. It was contended by witnesses that the aggregate of suffering in the life of a dairy cow was much greater than the suffering involved in dehorning, and with this opinion the Commissioners are inclined to agree. A perusal of the evidence will show that the suffering occasioned by horns is neither rare nor trivial, and we commend to the consideration of humane people this aspect of the question.

All the evidence, in fact, goes to show that the possession of horns by cattle, in addition to causing great and prolonged suffering, means a loss in the aggregate of hundreds of thousands of dollars to the farmers of this country. The dairying and cattle exporting industries are two of the most important in Ontario, and anything materially affecting them must affect more or less all classes and interests in the province. The total number of cattle owned in Ontario last year according to the Bureau of Industries, was 1,978,815. Of this number 773,234 were milch cows ; 359,318 were store cattle over two years, and 839,547 young and other cattle. The exports of cattle from Canada into Great Britain were 108,289, and the value was \$8,623,202. As the large proportion of this trade goes from Ontario, it will readily be seen that if the statements of witnesses are correct—that dehorning increases the value \$5 per head—there would be a total increased value for export cattle from Ontario of nearly \$500,000 per year.

The report of the Ontario Department of Agriculture states that last year (1891) there were in operation 838 cheese factories, with 45,066 patrons. The supply of milk was 865,453,574 pounds from 296,196 cows, and the 81,929,042 pounds of cheese manufactured was sold for \$7,656,484. The progress being made by this industry is shown in the fact that the total output was 13,000,000 pounds higher than the average for the previous nine years.

It is not claimed that the operation of dehorning can be performed without suffering, but the real question to be considered is: Are the advantages such as justify the infliction of whatever degree of suffering attends the operation? Those favoring the practice concede that there should be proportion between the suffering and the results attained, and that if, in the opinion of men of ordinary humanity, the pain inflicted is excessive, the practice ought to be prohibited. We have already referred to the advantages. In seeking to ascertain the probable amount of pain endured by the animal, the anatomy of the horn and head was studied; expert evidence was received; practical farmers who had performed or witnessed the operation were questioned as to the conduct of the animals during and following the operation, and the Commissioners witnessed for themselves the operation performed on six animals of various ages. They entered upon the investigation rather opposed to the practice than otherwise—certainly none favored it—and they endeavored throughout the enquiry to be impartial and judicial. On witnessing the operation they did not find the evidence of suffering so great as they had expected, and the after effects did not indicate any serious interference with the health or comfort of the animal. This, too, was the conclusion of all the witnesses who had seen the operation. To the veterinary profession one would naturally look for an authoritative statement as to the probable extent of the suffering, but here the divergence of opinion was found to be as wide as in the case of witnesses who had never seen the operation performed—those who were opposed to the practice stated that the suffering would continue for a lengthened period after the operation, but the symptoms which they said they would look for, are, according to the evidence, rarely met with after dehorning. There was a difference of opinion, also, as to whether the matter frequently discharged from the aperture after dehorning was the product of inflammation or merely the ordinary discharge provided by nature for the healing of the wound. The Commissioners, while believing that a discharge of this kind is often aggravated by exposure or neglect, are not inclined to regard it as indicative of severe suffering. The degree of sensitiveness contained in the nerves of the horn is also a controverted point on which it does not seem possible to obtain any final decision.

Admitting, however, all that has been claimed as to the extreme sensitiveness of the structure, the operation is one that is very speedily performed—the average time for removing each horn being from $5\frac{1}{2}$ to 6 seconds when performed by an

experienced operator—and the weight of evidence is that once the horn is severed the acute pain ceases. It is impossible to gauge the amount of suffering involved in the healing process, but the fact that farmers who claim that they can tell at a glance when their cattle are sick are unable to see any marked difference in their condition as a result of the operation, is strong presumptive proof that there is not much severe pain. It is a well authenticated principle among dairymen that whatever interferes with the health and comfort of the animals will affect the quality and quantity of their milk, and the fact remains after many careful experiments that dehorning does not materially diminish the milk secretion nor impair its quality.

Some of the witnesses put forward the view that man is not justified in inflicting pain, even though the object sought is the increased value and usefulness of the animal as a servant of man. No amount of money, they held, could be weighed against pain, and where an animal was ungovernably vicious and ordinary remedies failed, it should, they thought, be isolated or slaughtered. Others again, while opposed to dehorning for a commercial advantage, were willing to concede that vicious animals might be dehorned. Bearing in mind the purpose for which cattle were given to man, the Commissioners consider that, provided the pain inflicted is not excessive or of unreasonable duration, and the object is adequate, the operation cannot be held to be a contravention of the Act governing the prevention of cruelty to animals, either in letter or spirit. In cases of this kind, where the question of cruelty is concerned, we believe that the motive should have due consideration, and that where temporary pain is inflicted in the honest desire to attain a desirable end, such an act should not be placed in the same category with the pain and mutilation so often inflicted in moments of base and ungovernable passion. To deny the right of man to inflict pain for wise and reasonable ends is to accord to the lower animals an exemption which the human race does not claim for itself, for we all know that operations of the most painful and cruel character are daily performed upon little children, as well as upon men and women, to remedy physical defects, and give greater enjoyment in life. Then we would call attention to the fact that operations of an admittedly more painful character than dehorning have long been permitted, so that no new principle is involved. The spaying of animals in which the acutely painful operation of removing the generative organs of the female is performed, has been declared by the courts of England as not coming within the meaning of the Act regarding cruelty to animals, and the castration of male animals, also an operation involving great suffering, is by general consent and long-established custom, allowed to be performed. Then, as is shown in evidence, the infliction of unnecessary pain upon an animal means in nearly every case a direct loss to the owner; a benefit to the animal means a benefit to the owner, and where an animal is not benefited it will deteriorate, and the consequent loss of product will cause the farmer to speedily abandon the practice.

The distinction between the infliction of *pain* and *cruelty* is one that needs to be emphasised in view of the attitude of some of those who are opposed to the practice. Cruelty is the infliction of pain wantonly and unnecessarily, and the term should not apply to those who believe the justification to be sufficient and who exercise due care to have the operation properly and skilfully performed. At the same time, the operation is one that may be badly and carelessly done, and the unnecessary pain thus inflicted is cruelty. Even though the practice should be declared legal it would still be binding upon all parties to take reasonable precautions to have the work done quickly and properly, and where it is shown that these precautions have been neglected, prosecution and conviction should follow under the statute provided in that behalf. After the operation, and while the healing process is going on, there are many ways in which needless pain may be avoided, and although the arm of the law may not always be present to assert the rights of the dumb animal, there is a no less binding duty and responsibility laid upon each one to exercise thoughtfulness and kindness towards the humble and dependent servants of his will. No operation involving pain should be performed carelessly or indifferently, and if this rule were always observed we believe that much of the present opposition to the practice would be withdrawn.

Although none of the witnesses before the Commission were able to speak with any degree of confidence as to the practice of disbudding, or preventing the growth of the horn, a number of veterinary surgeons and directors of experimental stations express the opinion that the operation can be performed in calfhood with much less pain. The Commissioners, although not prepared to recommend that the operation be limited by law to the period of calfhood, would express the hope that continued experiments will be made in this line, and that if it should be definitely demonstrated that these methods are accompanied by less pain, and that the results are equally satisfactory, farmers generally will give them preference over dehorning at a more advanced age.

Concluding the operation to be one that ought to be permitted, the difference of opinion as to the age at which the operation is best performed is so great that the Commissioners do not feel disposed to recommend any limitation in this respect. It does not appear to make much difference in point of suffering whether the horns are taken off at eighteen months, three years, or six years. After the latter age, however, the horns seem to become less sensitive to the operation.

The season at which the operation should be performed is very important, all the witnesses agreeing that it is desirable and essential to rapid recovery to avoid the heat and flies in summer, and also cold, rain, wind and frost. The month of November was given by many witnesses as the most desirable season, while October and May were also mentioned as being a suitable time for the operation.

RECOMMENDATIONS.

The Commission would therefore recommend as follows :

1st.—That the practice of dehorning be permitted where performed with reasonable skill, with proper appliances, and with due regard to the avoidance of unnecessary suffering, and that the Ontario Government should bring to the attention of the Dominion Government the desirability of amending the law relating to cruelty to animals, so as to give effect to this recommendation,

2nd.—That the Ontario Government should direct the management of the Ontario Experimental Farm to experiment with chemicals on the horns of young calves and also cutting out the embryo horn, with a view to ascertaining whether these methods are more desirable than sawing off the horns when they have attained their full growth.

CHARLES DRURY, *Chairman.*

RICHARD GIBSON,

HENRY GLENDINNING,

D. M. MACPHERSON,

ANDREW SMITH,

J. J. KELSO, *Secretary.*



APPENDIX.

EVIDENCE.

TORONTO, WEDNESDAY, APRIL 20, 1892.

Ex.-Ald. GARRETT F. FRANKLAND, called and sworn, gave evidence as follows :

Mr. DRURY—I understand, Mr. Frankland, you have been for many years in the export cattle trade? A. Yes, since its inception in 1875, and I have gone over personally with the cattle about thirty times.

Q. You have had opportunities for observing the conduct of cattle on board ships? A. Yes.

Q. You are no doubt aware that the subject of dehorning cattle has been attracting attention in Ontario during the past few months? A. Yes.

Q. Have you seen much damage on the cars or on the water from the horns of animals? A. I don't think I could say there was one in a hundred ever damaged by horns.

Q. Would you say there was one in two hundred? A. I would not like to say there was as much as that. I have seen occasionally where an animal has introduced its horn between the railings of the car, and in trying to wrench itself loose has pulled the shell of the horn off. The agony of the poor animal has caused me to think there was great pain.

Q. Now, if the Commission were satisfied that the process of dehorning could be accomplished without serious suffering, but admitting that there was some suffering, would you be in favor of establishing the practice as a matter of convenience to the shipper? A. No, I prefer them with the horns on. They are pleasing to the eye and calculated to sell for better prices, unless they are natural muleys, and then there is a development of the head that corresponds with the contour of the animal.

Q. Now, a witness in the English case claimed that the value of polled cattle over unpolled was from ten shillings to a pound. Could you make a better sale of polled cattle than unpolled? A. I don't think I could if the quality and weight were equal.

Q. Your cattle are all tied up? A. Yes, but if there are vicious ones in the herd it is the duty of the farmer to remove them. We had to saw the horns off an animal once, and you could hear it bellow for a mile away.

Dr. SMITH.—You have not seen much dehorning done? A. No, only where there was an accident.

To Mr. DRURY.—Now, if you were buying at a point 400 miles west of Montreal—the shipping point—and could buy either polled or unpolled cattle, as a matter of convenience and safety which would you prefer? A. I might like one as well as the other, but we would always keep the two kinds separate. Those without horns can often do as much damage as those with horns.

Q. You would not consider that there was much danger from horned cattle in a 400-mile journey? A. No.

Q. And on the vessels there is not much loss? They are driven on board and remain tied up until they get across. The number of accidents have not been sufficient to cause me to agitate for the dehorning of cattle.

Q. You would not favor it even if it could be proved that there was not much suffering to the animal? A. I would not encourage it at all—I would not consider it a step in the right direction.

Q. Then, from the shippers' standpoint, you would say there is no demand for dehorning? A. Yes.

Q. Have you noticed in the old country any preference given to polled cattle because they were polled? A. No, I don't think so.

Mr. GIBSON.—Have you had experience of animals that have been dehorned? A. Yes, I have fed a few of them.

Q. Do they feed up faster than the others? A. I don't think so, and they are an eye-sore to me as I am sure they must be to you. I think its an outrage and cruelty.

Mr. GLENDINNING.—Do you ship bulls to the old country? A. Yes.

Q. Have you any difficulty with them? A. No, they get so fat that they are not inclined to be disagreeable.

Q. In shipping to Montreal do you send them the same as the others, or do you tie them up? A. We tie them up, but more as a sort of leverage—to help them keep their feet.

Q. Have you had any of your men hurt in handling bulls? A. No, not in the past nineteen years.

Mr. GIBSON.—It is claimed that more cattle could be put into cars without horns? A. I believe they could.

Q. Why? A. Because they could be packed better.

Mr. DRURY.—In gathering up cattle, if you put two or three different lots into one yard, would you expect that there might be trouble? A. Well, if there was one or two vicious animals it would create confusion, but I have never seen much serious harm from that.

Q. Would there not be a good deal of contention to see which was master? A. Just after putting them into the yard there might be a little fighting, but they soon settle down.

Mr. MACPHERSON.—Would you consider that a vicious animal would be improved by dehorning? A. I would recommend the death of the animal rather than dehorning.

Q. Have you had any experience as to the effect of dehorning upon the disposition of a vicious animal? A. No.

Q. Suppose the animal was not in fit condition to kill? A. I would tie him up until he was. I would neither have part nor parcel in dehorning.

Mr. A. J. THOMPSON was then called and sworn:

Mr. DRURY.—You are a shipper of live-stock to the old country, Mr. Thompson? A. Yes.

Q. And you have been engaged in this business for a number of years? A. Yes, since its commencement in 1875.

Q. You have had opportunities of observing the conduct of animals in transportation by land and sea? A. Yes.

Q. You have heard Mr. Frankland's evidence. Do you agree generally with the position he has taken? A. There are some points I hardly agree with. With regard to muley cattle, in the old country, I think there is a preference for them with some buyers.

Q. Is that for fat or store cattle? A. For fat stock. We had a lot of muleys that we kept entirely separate from the others, and I found that they sold for more than the others.

Q. Was that on account of the breed, or no horns? A. Because of no horns, I think.

Q. Are you speaking of the Polled Angus, or the artificially polled cattle? A. Of the naturally polled—occasional bullocks just as we came across them in the fall.

Q. Would there be any advantage in shipping if the horns were off? A. I think an extra bullock could be put into a car.

Q. But is there not an element of danger from the horns themselves? A. It makes no difference on vessels, because they are all tied up, but where cattle are fed loose, of course the polled cattle are the safest.

Q. Would you expect much damage from strange cattle meeting in a small yard? A. Well, for the first time they occasionally have a little row, but I have never seen any very big set-to. We frequently have cattle break their horns through getting them caught in the side of the car. I have a North-west bullock now, last fall it got both its horns injured, and we cut them off. It has done splendidly since and is a grand bullock to-day.

Q. Who performed the operation? A. Just the men in the stable.

Mr. MACPHERSON.—In this case did the animal show any symptoms of not eating? A. Well, he ate all right, but for some weeks he didn't pick up very well.

Mr. GIBSON.—Is he a better steer to-day than if the horns had not been taken off? A. I could not tell that.

Q. Compared with the others? A. He has made more improvement than the cattle that came in with him in the fall.

To **Mr. DRURY.**—In buying a number of steers would you consider that dehorning would increase the general fineness of the animal? A. I could not tell that. I have seen a few two-year-old cattle from the North-west where the horns had been cut off an inch or an inch and a half from the base of the head, they appeared to be well developed, but they were unsightly.

Q. There was a stub? A. Yes.

Q. Do you think it is a right thing if the proportion of advantage is considerable, to inflict this suffering? Take emasculation, for instance, you consider that justifiable? A. Yes.

Q. Then, on the same principle, do you believe that man is warranted in inflicting pain if the gain is sufficient to justify it? A. I would think so.

Q. In selling cattle in the old country, you say you have better results as a whole from the polled? A. Taking the quality and the weight equal, I think the polled cattle will sell for more money.

Dr. SMITH.—If the practice, skilfully performed, were allowed in Ontario, do you think it would be of advantage? A. I think it would be a benefit for the reason that a farmer could turn a dozen head into a yard and feed them together with greater safety.

Q. Would you say that a half per cent—one in 200—were injured by hooking, taking the season's shipment? A. They might average one per cent, and might not.

Q. Would you be in favor of dehorning? A. I think if it could be done without much pain, it would be an advantage all round.

Q. Have dehorned cattle a greater value for shipping purposes? A. Yes; on the English market I believe they would realize from \$5 to \$8 per head more.

W. W. HODGSON, lessee Toronto cattle market, was sworn and examined as follows:

Mr. DRURY.—Have you been long connected with the cattle market, Mr. Hodgson? A. About ten years. I was caretaker from 1882 to 1884, and since then have been lessee of the market.

Q. What is the system of handling cattle there? A. They arrive in carloads at the platform, and are unloaded and driven into yards 30x70 feet. A carload of 18 to 27 head is put into each yard.

Q. What number do you handle in a month in the shipping season? A. We have had as many as 10,000 in a month.

Q. How long do they usually remain in the market? A. From 6 to 48 hours.

Q. You handle not only cattle on sale but those going through to Montreal? A. Yes.

Q. Do you notice if the cattle fight in the yards? A. Yes, they do, very frequently.

Q. Do you think that if all the cattle in the yards were dehorned that good would result?

A. Yes.

Q. Would there be a benefit to the cattle themselves? A. Yes. I believe it would be a good thing from a humane standpoint. In dehorning there is considerable pain, but that heals up. Frequently cattle coming into the yards are gored to pieces. I have seen gores 12 inches long right into the flesh, not only one gash, but another animal will come along and rip up the same gash, making it terribly painful. Some cattle are very timid and the others will set on them and gore them right and left.

Q. Have you seen cases of broken horns? A. Yes. I don't suppose there is a day that they don't come in with horns broken.

Q. Have you seen much damage from horning on railway cars? A. Yes. If there is any space room in the car one bullock will keep all the rest up in one end and do nothing but gore.

Q. Do you agree that the practice of dehorning could only be justified where the benefit is proportionate? A. Yes.

Q. And you believe dehorning to be desirable? A. Yes, from a financial as well as a humane standpoint. The animals are often depreciated in value by bruises through goring each other. Then on the slippery planks in rushing to get away from each other they often fall and spread out, and are practically done for then.

Q. Could you make comparisons between animals dehorned and those not dehorned, that come into the market? A. Only the natural polled cattle. Muleys never run at each other. They will stand quietly or lie down. We have had black Galloways, and we never had any trouble in that direction.

Dr. SMITH.—Have you seen animals brought into Toronto that were dehorned? A. No. There might be one or two in a week, but not many.

Mr. GIBSON.—It has been suggested that the removal of the horns changes the disposition of the animal. How about those born without horns? A. Muley cattle may run at each other but a stroke from the head will not hurt like a horn. My experience with muley cattle is that they are not anxious to interfere with each other. Horned cattle seem to desire to gore from the moment they get into the pen. Old cows are continually hooking.

Q. How about bulls? A. They will fight, but as soon as they conquer that ends it. They don't run about goring like steers. But if you had one bull loose and another tied up the loose one would gore the other.

Mr. DRURY.—Would you say from your standpoint of handling a large number of cattle that if dehorning were allowed the good would outweigh the evil? A. I think the benefits would far outweigh the suffering or inconvenience caused to cattle while under the effects of the operation.

Mr. SMITH.—You have no practical knowledge of dehorning? A. No. But I see the evil effects of the horn.

MR. DRURY.—Assuming that dehorning does involve suffering, would you consider it would be a justifiable thing to inflict that suffering in view of the good that would result? A. Yes, I am satisfied there would be a financial benefit as well as a benefit to the cattle generally. If there were no hooking or chasing a bullock would increase in weight 100 to 200 pounds.

Q. What number of cattle would pass through the market in a year? A. There must be close on to 100,000 in a year. During the ten years I have been there the total number of animals that have gone through would be about 700,000.

Q. And as a result of your experience with this large number, you believe that dehorning would prevent a great deal of suffering? A. Yes. The suffering at the time would be made up for in the gain to the herd afterwards. I have seen a great deal of suffering caused by goring, especially in the case of springers. In one case an animal was ripped up into the calf-bed, and as far as the bag is concerned I have seen one hundred torn open.

Q. You are a pretty strong advocate of the practice of dehorning? A. Yes. I would support it because I believe it would be an advantage to the producer as well as to the shipper.

MR. MACPHERSON.—And to the animals themselves? A. Yes, it would be in the end. There are some animals that might not need to be dehorned, but in order to prevent any from being gored you would have to adopt the system.

Q. If the vicious animals were dehorned the others might not need it so much? A. A bullock need not necessarily be vicous to be a hooker. Often the quietest milch cow would be the worst from a hooking standpoint when put in with other cattle.

MR. DRURY.—Of the animals coming into the market, what percentage would you say is injured or damaged by goring? A. There would be ten out of every hundred more or less injured—or two animals to every carload.

Q. You are sure of that? A. Yes. It is often necessary for us to remove a bullock from a yard to stop its being injured. Where we see or hear of a bull or cow being set upon we separate it from the rest.

MR. GIBSON.—What is the proportion of fat cattle and of stockers among those you speak of? A. There would be about half of each.

Q. Do you find less fat cattle injured and more stockers? A. The greatest amount of injury is done to fat cattle.

Q. If you get a load of well-bred cattle don't you find that they are vicious and inclined to hook? A. We find greater necessity for dividing fat cattle than stockers.

Q. You say that 10 per cent. are injured more or less. Would you have the other 90 per cent. suffer by dehorning to do away with the ill-nature of the few? A. From a financial standpoint I would say that the injury inflicted is quite an item.

Q. Could you not dehorn the ten per cent. of vicious ones? A. But you can't draw the line.

Q. If there is so much depreciation of property, do you not think it would be better to tie the animals up in the cars and in the yards? A. Yes, that would be better than at present.

MR. DRURY.—Would it be an advantage to the shippers and a humane thing for the cattle, if they were dehorned—as far as the railway journey is concerned? A. Well, that requires modifying. There are cases where the load will come in all right, where they have not interfered with each other; but again most of the animals are effected by the hooking.

Q. So that you think it would be an advantage if the horns were off? A. That is my conviction in the matter.

Q. Have you had any experience as a cattle-raiser? A. No. But I have had experience from childhood with cattle, as my father was a butcher.

TILSONBURG, TUESDAY, MAY 10.

THOMAS RUTHERFORD, farmer, Delmer, Dereham township, sworn said: I usually keep from twenty to twenty-five cows, and make a specialty of dairying. I dehorned some of my cattle a year ago last February and some last fall. It was a new thing to me until I saw that a neighbor had dehorned his. They looked so quiet it struck me there must be something in it. This was in summer. I waited until the fall and decided that if it was not too much punishment for the cows it would be a good thing to have the horns off. I got a neighbor—young Mr. Smith—to perform the operation on thirteen head. This was a year ago last February. I was so pleased with the result that I concluded last fall to have the horns off all my herd. At first the quiet ones were allowed to keep their horns, but these became bossy and I decided to have all the horns taken off. Greater quietude resulted. My practice is to stable cattle in winter, in the stanchions chiefly. Injuries have been inflicted by horns in the stanchions. In swinging around one was liable to injure another with its horns. The eyesight of two animals was injured in this way. A good deal of damage was done with horns. I have had udders ripped and a quarter of the bag destroyed, the animals giving bloody milk. A colt has also been hooked. I

was not impressed with the idea that there was great suffering from the operation. I observed pus in some cases where the cavity was large. My experience is that there would be in the course of eight or ten days a mucous discharge until the horn closed over. After the operation the animals did not show symptoms of being sick. They did not fail in flesh or seem to do badly. The pain must have been slight or they would have shown some signs of it. There was a loss of blood, but not of any consequence : some more than others. I am more in favor of dehorning to-day than I was at first. It changes the disposition of cattle and makes them more like sheep. In a herd of horned cattle there is always a good deal of contention, and one animal will boss over another. I have observed that No. 1 will be boss of No. 2 ; No. 2 of No. 3 ; No. 3 of No. 4 ; and then again No. 4 will be boss of No. 1. There is a marked improvement in dehorned animals drinking. They crowd around the tank perfectly tight, and there is no delay such as formerly. I have two muley cows, and the dehorned animals are more peaceable than they are. When the horns are taken off they lose conceit of themselves and have no further desire to fight. If the operation could be performed on a calf I would favor that, provided it has the same effect as taking off the horns later on. Either way is better than having horns. I am satisfied with the operation, and believe it is a ben fit to the owner and to the animal itself. It takes about two months for the horn to heal completely over, where the cavity is a large one. I would not recommend the operation to be performed in the warm weather. Care should be taken of the animal. I have not applied anything after the operation but if there is a cavity and the weather is cold I would advocate the application of tar or something of that kind. The closer to the head the horn is taken off the quicker it will heal up. It does not require much skill to dehorn a cow, but of course there are boches who would make a mess of anything. I have never timed the operation, but I think a horn could be taken off in five or eight seconds. I believe that a fine-toothed, stiff-backed saw would be the best instrument.

OLIVER DORLAND, farmer, Dereham township, sworn, said : I have been engaged in farming for over twenty years past, and usually kept from forty to sixty head of cattle, dairying exclusively. I have dehorned forty head this spring, they were mostly from three years old up to eight or nine : I am satisfied with the results. Before dehorning, I lost a good deal through cows giving bloody milk, and often part of the bag would become disabled through hooking ; sometimes they would not give milk for a week through being chased and gored. Dehorning changes the disposition and makes the animals quiet and peaceable. Since taking the horns off there is no trouble in the yard or at the drinking trough. I have not performed the operation myself, but have witnessed it. I thought it would be a very painful thing, but do not now regard it as such. The acute pain only seems to last during the five or six seconds of actual sawing. Afterwards they did not seem to mind it much. The milk supply failed a little next day, and then came up again much the same as before. The operation should be performed by someone who has seen it done quite a bit. I would prefer preventing the growth of horns if it could be done as well as when they are older. The operation is not so severe as some people think. I believe animals suffer more from the horns than they do in having them taken off. It is about a month since my cattle were dehorned ; the cavity is now closed over in most of them, but not all. I did not notice that one animal suffered more than another. It does not seem to make much difference whether the animal is old or young. I could not say that to dehorn requires as much skill as to castrate, but I would not like to see anyone do it without having some previous knowledge of it. I do not think that a skilful buyer would be deceived as to age in buying an animal without horns.

JAMES FRANCIS CONOE, farmer, township of Middleton, Norkfolk county, sworn, said : I am engaged principally in dairying, and keep from sixteen to twenty cows. I have not practised dehorning but am in favor of it, as it would give room in housing. I lost a valuable horse once through hooking, and have known animals to tyrannize very much over each other. I have not witnessed the operation, and have not seen any dehorned animals.

ISAIAH WALLACE ELLIOTT, retired farmer, Dereham township, sworn, said : I have had nearly forty years experience with cattle, and formerly handled from twenty to twenty-five cows. I have known considerable injury to be done through hooking. The idea of dehorning was at first most repugnant to me, though I often wished the horns were off. I opposed the practice when I first heard of it, but now believe it is a good thing, and that there is not the great suffering that some people imagine. I do not believe that a buyer would be deceived in the age of an animal when her horns are off. The good effects of dehorning fully compensated for any pain in the operation. My son-in-law had about twenty head dehorned ; the next day they shrank a little and there was a falling off in the milk, but after that there was not much difference. They look well and are milking well to-day. The horns were taken off last fall. There was some discharge from the head ; I think it was pus and I attributed it to chaff or something of that kind getting in the horn and setting up an irritation. Nothing was put on to cover up the wound ; but I think it would be a good idea to cover it a little, particularly in cold weather.

I consider that the best time to perform the operation is in the fall, after fly time and before the cold sets in. Cattle recently dehorned should be kept in the stable during cold weather. It is a justifiable practice from the point of benefit to the animals. I have tried putting knobs on the horns of twenty or thirty cows; it prevents them tearing, but did not prevent them from butting or hooking. My son-in-law, Mr. Freeman, tried tipping as a preventive of hooking, but it was not successful, and he had another piece of the horn taken off. In the end he had to have the whole horn off. There was less bleeding when the horn was taken off close to the head than farther up. There is more pain in losing a horn accidentally than in being dehorned.

FRANK E. STOVER, dairyman and stockbreeder, township of North Norwich, Oxford county, sworn, said: I keep about 40 head of cattle. I dehorned 11 head early in February this year, two weeks after dehorned three, and the remainder of the herd during the latter part of April. My reason for doing this was that the horns were useless to the animal as well as dangerous to man, and I judged from the experience of farmers in the neighborhood and in Illinois that the practice was a beneficial one. I have suffered considerably from hooking. There were two abortions in my herd during the past two months caused I believe from hooking. Quarters of the bag have been injured and destroyed, and I lost one sheep from hooking. Quietness in a herd is very desirable; the introduction of strange animals or worrying by dogs is very injurious. I think animals often suffer more from the horns of each other than they would in having the horns removed. I have seen them lie down and bellow with pain from hooking, and they would not do that after the operation. The only evil effects of dehorning I have noticed was in the case of a cow that was dehorned the day after she had aborted her calf. Her system was in a deranged condition and she did not stand it well. From my experience I would say that the benefit to the animal and to the owner would compensate for the pain inflicted. I do not think the operation is any worse than pulling a tooth. In one case the animal bled a good deal, and owing to an injury the bleeding started again next day. I stopped this by searing with a hot iron. I have bought cows with wooden knobs on. Of course they could not do as much harm, but I do not think the disposition was in any way changed. I do not consider there would be much fraud in selling dehorned animals, as a practical dairyman would judge by the teeth and the general appearance. An old animal generally has an old look that would be noticed by a buyer of any experience. I believe the amount of good justifies the operation. I intend to dehorn the remainder of my herd, and I would not do this unless satisfied that it was a benefit. The animals dehorned three weeks ago are not yet quite healed over. There is no discharge of pus; after the operation they took their food as before, and except in the one case I saw no signs of pain. There was a slight falling off in the milk yield, but this did not last long. The dehorning of thoroughbred stock would be a matter of fancy with the owner. If a prize depended upon the looks of the animal it would not pay to take the horns off. If a thoroughbred Durham were dehorned it would not sell for as much as before.

WILLIAM SHEPHERD, farmer, township of Middleton, Norfolk county, sworn, said: I keep 16 head of cattle, 7 or 8 of them being dairy cows. I only commenced the practice of dehorning a short time ago. Had a two-year-old cow that pitched into a colt, and I decided to take her horns off. This was about a month ago. She showed no signs of illness, there was very little bleeding, and the wound is now healed over completely. One heifer I recently traded had a sharp horn, and this morning I cut about an inch of it off. It bled a good deal, but there did not seem to be suffering to any great extent. One of my cows got loose in the stable and nearly killed another cow. In the yard and at the watering trough there is a good deal of trouble with the horns, and some of the underlings will not go over to the water at all. I agree with the previous witnesses and I intend having the horns taken off all my cattle. I knew a man who had all muleys and who got one cow with horns. They could not agree together, and he had to have the cow's horns taken off. If only the vicious animal were dehorned another would soon come forward and take its place. The age of the animal could be judged from her teeth and appearance. I would prefer dehorned animals for milking purposes.

WILLOUGHBY ROSEHART, farmer, South Norwich, Oxford county, sworn, said: I am engaged in dairying and keep 23 cows. I am in favour of dehorning. I had nine cows dehorned about the end of February last. I bought one afterwards, she seemed to boss the others, and I decided to take her horns off. I saw no bad results. Next day I took some tar and plastered over the ends of the horns, and put on a piece of cotton to cover the cavity. I did this with all of them. I did not see the nine dehorned but they did well. The one I dehorned I stayed for an hour watching the effect, and I could not see the least indication of pain. I had two patches of tar ready, after the cow bled a few minutes I applied one of the patches. I believe it is a good thing to use the cotton and tar to prevent the action of the air

upon the horn. There may be some preparation better than tar, but I would recommend something being used. The nine dehorned were treated in that way the following day; two discharged matter, they did not seem to be sick at all. I think the bad effects were very small. I was very much opposed to the practice at first, but I believe that the advantages of the practice outweigh the amount of pain inflicted. The practice I consider should be legalised. I would have dehorned my herd sooner if the law had been clearer. I have suffered a good deal from horns; I came very near being killed by a bull once. In the herd animals are constantly goring each other; two cows have lost quarter of the bag in this way. I do not think that much deception could be practised through the horns being off. Buyers could judge by the teeth and general appearance; the teeth do not wear down so fast on clay land as on sandy soil, but in judging you have to take the animal as a whole and form an opinion from its general appearance, the rings on the horns are not always a reliable test of the age. I have bought a good many cattle and have gone by the teeth as well as the horns; it does not require much skill to take off the horns but everyone could not do it. It requires some nerve; there should be some way of providing that the operation should be properly performed, if the work is done in a bungling and tedious manner the courts would be justified in convicting for it. There is a humane way and a way that is not humane. I had a cow of a very vicious disposition, could not drive her, she chased three men and came very near killing one of them. Taking off her horns changed her disposition, and she is as docile as a lamb now. I have a young red heifer that used to bleed greatly at the nose. It is not troubled this way since dehorning, and the operation seems to have been the making of the animal.

L. A. BROWN, veterinary surgeon, Aylmer, graduate of the Ontario Veterinary College, in practice three years, sworn, said: I performed the operation on about 60 head of cattle. I used a fine saw, and took the horns off as close to the head as possible. I believe this is better than leaving any of the stump, as suppuration rarely occurs when the horn is taken off closely. The largest sinus I have observed after dehorning was in the case of a Holstein bull, the opening being about two inches and taking nearly three months to close over. There was very little discharge. The pain only seemed to last during the actual operation; I did not use a knife. I consider the operation a beneficial one; it is painful but only for the moment. After being released the animals show no sign of pain. I have taken the temperature in a few cases but have not noticed much difference. In all that I have dehorned there were no unfavorable results. There were one or two that discharged a slight limpus or mucous for a few days. From my knowledge of the part and of the operation I consider it a good thing in dairying districts, both for the animals and the owner. The operation does not require much skill to perform provided the party understands the business, properly secures the animal and uses a proper saw. While dehorning may be painful it is not cruel, as it is done for a good purpose. More suffering is caused I believe by the offensive use of horns than the animal suffers in having the horns removed. The time in taking off both horns would be 6 to 10 seconds. I have not tried disbudding with the knife, but have used potash caustic on about 30 calves three weeks and under. In some cases it was a success. All that was necessary was to clip the hair from the budding horn and thoroughly apply the caustic: an over application would of course be liable to spread. I consider the best results are secured by removing the horns from the grown animal at about three years of age. I am quite satisfied that the suffering is not considerable. I believe that the best time to perform the operation is in the cold weather as there is less vitality in the horn then than in the warm weather. If the animal were kept in a comfortable stable I do not consider that a covering to the wound is necessary. I have tried an antiseptic application to the cut, and that of course does no harm.

WEDNESDAY, MAY 11.

The members of the Commission assembled at the Mattheson House, Tilsonburg, at 9 o'clock Wednesday morning, May 11, and, accompanied by Hon. Mr. Dryden, Minister of Agriculture, started out to visit a number of farms where dehorned cattle were kept. The first stop was made at the farm of A. L. Scott, Middleton township, where a herd of about 30 dehorned cattle were driven in from pasture. They came up the lane in a bunch, as quiet and orderly as a flock of sheep, something which, Mr. Scott said, did not often occur before the horns were taken off. The Commissioners had abundant opportunity for closely inspecting the cattle, and had no fault to find with their general appearance. Mr. Scott, who was present, expressed himself as in every way satisfied with the results of the operation. Other farms visited were those of D. T. Smith and Thos. Rutherford, Dereham township, and at both these places herds of twenty to thirty dehorned cattle were seen, moving about among each other in confined spaces with the utmost harmony. All appeared to be doing well.

At noon the Commissioners were invited to take dinner at Mr. Edward York's farm,

and afterwards to witness a number of operations. Mr. York, who is an enthusiastic advocate of the practice of dehorning, conducted the Commissioners through his stables and showed them some fifty head of cattle that had been dehorned at various periods during the past two years. He claimed that in addition to being much more easily handled the animals were in better condition than they would have been if the horns had not been removed. To convince the Commissioners of the ease and rapidity with which the herd could be fed Mr. York turned the animals loose into a large open shed furnished with troughs along either side. When food was brought in the cattle were soon standing in a solid row before the trough, each one getting his due share and manifesting a willingness to let others do the same.

At 2.30 the Commissioners and a large number of farmers from the surrounding country gathered in the stable where the operation was to be performed. The first animal to be operated on was a two-year-old bull. Mr. W. A. Elliott was the operator, assisted by Mr. York and a herdsman. The animal was placed in the stanchions near the door, and its head drawn into position by means of a rope halter and tackle held by Mr. York. By means of the tackle the head was depressed a little, and the herdsman held it in a convenient position for the operator, turning it quickly for the removal of the second horn. Mr. Elliott used a fine toothed saw, well sharpened and oiled, and with quick and steady hand speedily severed the horns from the head. The actual time for sawing off both horns was 13 seconds. In size the horns were much larger than usual, measuring at the base $2\frac{3}{4}$ x 3 inches. The animal uttered no sound, and beyond flinching during the operation gave no evidence of being in great suffering. Blood spouted from the severed arteries, and the bleeding continued for some time after the animal was released. The horn was taken off close to the head, a little of the hair being also removed.

Other animals dehorned in succession were as follows: Cow, 6 years old, time $4\frac{1}{2}$ and 5 seconds for removing each horn, size of horn at base $2\frac{3}{4}$ x $2\frac{1}{2}$ inches; two year-old heifer, time for removing each horn $4\frac{1}{2}$ seconds; aged cow, time 6 and $5\frac{1}{2}$ seconds; eleven-year-old cow, time $6\frac{1}{2}$ seconds for each horn; aged cow, time $6\frac{1}{2}$ seconds each. The temperature was taken in each case by Veterinary Surgeons Brady and Brown. It was 101, 102 and 103° degrees in the different animals before the operation, and these gentlemen reported that the increase in temperature after the operation was very slight. Each animal on being deprived of its horns was turned into the yard where the six were subsequently seen by nearly 100 persons, including the Commissioners. In none of these cases was there bleeding of any consequence, and from one or two no blood whatever escaped. All parties agreed that the ordinary signs of suffering were wanting, and that in great pain were still being endured it was not noticeable by any outward indications.

The Commissioners next visited the farm of Mr. Roger Hawkins, where a large herd of dehorned cattle was inspected. Mr. Hawkins had the cattle driven in from pasture to show the Commissioners how peaceably they behaved at the water tank. The animals, about 35 in number, came into the yard in a body, and 18 of them drank at once from a tank 7 feet in diameter. This desirable result, Mr. Hawkins affirmed, could only be attained by the removal of the horns.

The Commissioners then met in the office of Mr. Edward York's farm, at 4 o'clock, and received the following evidence:

SPENCER A. FREEMAN, farmer, village of Culloden, Oxford county, sworn, said: I am engaged in dairying and keep about twenty-five cows; I have practiced and am in favor of dehorning; I commenced at first with cutting off the tips of the horns; this was not altogether successful, as there was the same tendency to knock each other about; I tried again by taking a little more off the horn, but found they could hook as much as ever in the course of a year or so; I then decided to have the horn taken off. I had a colt that was ripped up, and I attributed this to the cattle even after they were tipped; I have known considerable damage to be done by horns; my brother was hooked in the eye and had his face torn; and I was attacked myself by a vicious cow, the horn going through my vest; I dehorned the herd—twenty-three or twenty-four—the last week in December last; there was a little discharge after the operation—some from one horn and some from another; this did not seem to effect the health of the animal. It took about a month for them to heal up, and during that time they did not appear to be the least bit sick—except one cow that held her nose up against the manger that night and breathed as though she might be in some pain; it is an important matter to have quiet in a herd, as it affects the flow of the milk; chasing by a dog or each other would cause them to fall off in the milk supply; I noticed a great difference in the conduct of the animals after dehorning; but I could not say there was much difference in the flow of milk; I turn cows and calves and all into the yard and they feed together like sheep; they would not do that before dehorning; I had one muley cow; she was afraid of the others and would not run with them; the second day after they were dehorned I

believe she knew it ; she was no longer afraid of them ; and when one cow attacked her she gave it a butt that knocked the scab off the horn ; one of the principal benefits of dehorning is noticed at the watering trough, formerly one or two would keep the others away, now they all crowd around and drink together like a lot of sheep ; I do not consider the operation to be a severe one ; I am satisfied there is more pain in taking off the tips of the horns of a two-year-old to reach the quick ; I do not think the discharge from the head would affect the milk ; it was not like corrupt matter, and there was no odor such as would come from an old sore ; I am building a new stable and intend in future to keep no animals with horns ; I would not like to see the operation badly performed ; it should be done with proper tools by someone who understands the business ; I believe that more pain is inflicted by animals with their horns, than is inflicted in dehorning.

FRANCIS LEESON, farmer, township of Milahide, Elgin county, sworn, said : I am engaged in dairying and keep fifteen cows ; I dehorned my cattle ; previous to last winter I was very much prejudiced against the practice, but I have become a thorough convert to it ; I am satisfied from talks with shippers and with farmers around Brownsville, that it is the right thing to do ; I dehorned some two weeks ago, and they are commencing to heal now ; one of the animals—a bull—bled a good deal at the time, and there was a discharge from the cavity, but it is healing nicely now ; I am impressed with the desirability of having quiet in the herd ; I have known animals to become loose in the stanchions and gore each other ; in the yard one of the cows was knocked down by the others ; she commenced to bellow, and all the others got at her and I am satisfied she would have been gored to death if my son had not come along and looked after her ; my experience coincides with Mr. Freeman's as to the conduct of the animals at the water trough. If the application of caustic to the budding horns in calves were successful, I would prefer that way. I do not think there is much suffering in dehorning ; I believe it is a justifiable operation both from the standpoint of the owner and of the animal itself.

JOHN FULTON, farmer, township of Dereham, Oxford county, sworn, said : I am engaged in dairying and have had large experience with cattle ; I keep fifteen cows at present ; I only dehorned one—three years ago—because of its vicious disposition ; I do not want to dehorn my cattle unless compelled to ; I have raised all the cattle I have on the farm, and have a regard for them, and would not take their horns off if I could help it ; I used dehorning fluid on some of the calves ; some were a good job ; on one or two there were stubs, and on one of the animals one horn was left ; I would recommend that the operation be performed on calves by means of caustic ; the best time to apply it is in the first week ; there does not seem to be any suffering, more than an itching of the part ; I tried caustic on eleven calves ; some of them are now two-year-olds ; I do not want horns, but some of my cows have been with me for ten or fourteen years, and I will let them keep their horns for the rest of their time ; the damage done by animals to each other justifies, I think, the removal of the horns ; cows are no respecters of persons. I have known a cow to viciously attack its own mother ; they seem to be most vicious when turned out to grass in the spring.

JOHN HARRIS REED, farmer, township of Dereham, Oxford county, sworn, said : I have been engaged in farming for forty years past, and keep forty-five to fifty head of cattle ; I have seen a good deal of injury done by horns ; I found one of my cows dead once, and I believe she was hurt by the others ; another animal—a thoroughbred Ayrshire—was ruined for milking through being gored ; I tried the liquid preparation on calves at three days old, but this was only a few days ago, and I could not speak as to the success of the experiment ; I do not like to dehorn my cows because I am attached to them ; I would rather try to raise muleys ; I recognize the danger from horns in the stable and yard and from the herdsman's carelessness in leaving animals loose ; if there was not much pain I would consider dehorning justifiable.

ANDREW L. SCOTT, farmer, township of Middleton, manager of the Bayham cheese factory, sworn, said : I am in favor of dehorning, and have had the horns taken off twenty-eight head. This is a dairying district ; the Bayham factory has 100 patrons and receives the milk of probably 600 cows ; it turned out 127 tons of cheese last year ; farmers in the neighborhood largely depend upon dairying, and this question is one of great importance to them ; my cows were dehorned on December 30th last ; I agree with previous witnesses as to losses and injuries from hooking ; disturbances and excitement in the herd prevent animals from giving their full yield of milk ; I have noticed that when the cows are brought in by a dog and a boy they do not give as much milk as when I go after them myself ; taking off the horns produces a change in the disposition of the animals, making them more peaceable in every way ; the constant hooking and chasing each other is done away with, and they flock together like sheep.

I have witnessed the operation of dehorning ; there was pain while it was going on, but afterwards they did not seem to be suffering much ; they all healed nicely in six weeks ; there was no falling off in flesh and no marked difference in the flow of milk ; I watched to see if there was any taint in the milk after dehorning, but did not notice anything ; I believe that dehorning is a good thing for the owners and a humane thing for the animals themselves ; a man who performs the operation in a bungling manner should be liable to punishment, but any one with a good nerve can do it as well as a scientific man ; the practice was introduced into this neighborhood about two years ago, and is spreading rapidly ; probably fifty per cent of the cows supplying milk to the Bayham factory are dehorned ; and I believe that in another year all will be ; I do not know of anyone who has tried dehorning and is now dissatisfied with the results ; I see no objection to the milk of a cow that is discharging from the head after dehorning ; the discharge I think is simply serum and is not dangerous ; I had a muley cow that became quite a boss after the others were dehorned ; I would not favor performing the operation on animals under two years old—any age after that ; I think the operation should be limited to the fall and I prefer the month of November ; at that time trouble from flies is over and the animals are in good health and strength ; I do not see any particular benefit from the plaster of tar ; I prefer dehorning after the horn is developed, because the animals if allowed to have horns learn to use them, and after taking them away they become helpless in this respect.

CHAUNCEY SMITH, farmer's son, township of Dereham, sworn, said : I have had a good deal of experience in dehorning and have taken the horns off about 250 head of cattle ; I started two years ago, I was visiting in the State of Illinois and saw a good deal of the practice. It was a rare thing to find a herd of dairy cattle there that was not dehorned ; on coming home I dehorned my father's herd, and since then I have performed the operation for neighbors ; I could not say that I ever saw a case where the animal suffered much from dehorning ; it is not usual to have much loss of blood ; a bull will bleed more than others as it is more full-blooded and the horn is thicker ; my father's herd was the first in the neighborhood to be dehorned ; this was two years ago last February : people watched them a good deal and saw that they were doing well, were quieter and were giving just as much milk as before ; the fall is the best time for the operation and November is a good month ; in spring cows are not in such good condition ; I would not advocate dehorning being practiced in summer ; I think bulls should be dehorned for greater safety : I never knew a case where parties had their cows dehorned and afterwards were dissatisfied ; out west the payment for dehorning is ten cents per head for large numbers ; I have refused to operate on a number of cows this spring because they were heavy in calf.

TILSONBURG, May 12th.

The Commission resumed its sitting in the Tilsonburg town hall on Thursday, May 12th, at 10 o'clock, when the following evidence was received :

BENJAMIN HOPKINS, farmer, Dereham township sworn, said : I am salesman for the four factories of the Brownsville Cheese Manufacturing Company, and am managing director of the Brownsville factory. I keep 20 dairy cows, and had all my cattle dehorned in November 1890 ; no bad results followed, and there was no appreciable falling off in the milk. Quiet in a herd is very desirable. I have often been greatly annoyed at the cattle hooking each other coming up the lane and at the gate. Since dehorning there is great improvement in handling them, and a great change in their disposition towards each other. At the water tank they will now come right up as close as they can and drink together—14 or 15 of them at once. Before, a man had to stand around to drive the boss away and it would take an hour to water them all. I prefer chains to stanchions in securing in the stable, and I have double stalls for the cattle. I believe the operation is a humane one to the cattle as well as beneficial to the owner. I studied up the question and got all the information I could. I made a comparative statement of the milk given by my cows in 1890 and 1891. The total quantity from 18 cows in 1891 was 103,241 pounds, and in 1890 it was 88,521 pounds from 14 cows and 4 heifers ; calling the 4 heifers two cows, that would be 16 cows, allowing 1,000 pounds off for each of the 4 heifers would be 4,000 pounds, giving a gain in the year 1891, when the animals were dehorned, of 10,720 pounds, or an average per cow of about 600 pounds. I would not say that this difference was due to dehorning as the pasture might have something to do with it, but I think it was partly due to taking the horns off. I would expect to get more milk from a herd of dehorned animals than from the same number of horned ones. The total quantity of cheese made in the Brownsville factory last year was 145 tons. The milk of probably 800 cows goes to that factory—a large number of these animals are dehorned—I do not think as many as half. The men who dehorned their cattle in this neighborhood are good business men, prominent in church and public matters ; they are all thinking men who would not resort to cruel practices and would not favor dehorning unless

they believed it to be desirable in every way. I believe it is justifiable to inflict pain if there is a wise object in view. From the results afterwards and from the quietness of the herd, I am satisfied I have not done anything to the animals that was not for their own good. I prefer the month of November for the operation. I would not think there was any danger from fraud owing to the removal of the horns. In judging an animal I would look at its mouth; it might not be possible to tell the age exactly, but the condition of the teeth is a good indication. I do not think that dehorning affects the quality of the milk. Where cows are dehorned in winter they should be kept in a comfortable place and not exposed to bad weather. Muleys should not be put in with cows recently dehorned as they are liable to injure them by bunting. I am afraid that where the horns are removed in calfhood the animal will learn to bunt.

EDWIN D. TILLSON, Tilsonburg, sworn, said: I have had long experience with cattle and own at present about 120 head, both for dairying and feeding purposes. I have not dehorned my cattle and am rather opposed to it, as I can not see any particular benefit from it. I have had no trouble with my cattle; I only had one cow injured in the past 15 years. My method of feeding is in the stables in the old-fashioned stanchions; the steers are fastened with chains; they are fed about six months in the stable and are allowed out for water. I have had no injuries from horns in the stables, and I do not think that if one got loose there would be much harm done. I have a half-dozen water troughs 16 feet long so that four or five head can drink at each. I have not seen the operation of dehorning but look upon it as a cruel practice. Castration is necessary but I do not regard dehorning as necessary. I am doubtful if it is not an injury that will last all their life. I once saw a horn knocked off a steer and I was impressed then that it was a very painful thing. I have great confidence in neighbors who have dehorned their cattle; they are men of good judgment, and the fact that they favor it would take away a good deal of the objection I have to it in my own mind.

CHARLES BODWELL, herdsman, Tilsonburg, sworn, said: I have worked amongst cattle all my life and I have charge at present of Mr. Tillson's herd. I have never seen much injury done by horns, and do not see much disadvantage from them. I never saw the operation of dehorning or the animals after they were dehorned. I do not think it is right or that it is necessary. I believe that to take off the horns spoils the looks of the herd. I have known animals to suffer greatly from having their horns broken or knocked off.

ALBERT DEROUGH, farm laborer, employed on Mr. Tillson's farm, sworn, said: I saw a good deal of injury done by horns when I worked near St. Thomas, but have not seen much of it at Tillson's. I have seen enough injury to make me wish the horns were off. I saw 40 head that had been dehorned near Harrietsville, and they were quieter than most cattle with horns.

JOHN SHEAHAN, farmer, township of North Norwich, Oxford county, sworn, said: I am engaged principally in dairying and keep from 25 to 30 cows. I have not practised dehorning. I have known a good deal of injury to be inflicted by horns, but have not made up my mind whether it would be better to let the suffering from this go on or to take off the horns. If purchasing new stock I would prefer to get dehorned cattle. Quiet is very desirable in the care of dairy stock. It appears to me that it would be more humane to kill the germ of the horn in the calf. I believe I could tell a young from an old animal without reference to the horns, and I do not think there could be much fraud as to the age.

MATTHEW DILLON, auctioneer, Tilsonburg, sworn, said: I own one cow: I have not dehorned her and I don't intend to. I think that dehorning spoils the looks of the animals. Of course there must be something to commend it or these men would not resort to it. As an auctioneer I have sold about 1,000 head of cattle. I used to be able to judge the age of the cows, but now that they have their horns off it is not so easy, and as an auctioneer I am opposed to lying.

THOMAS PROUTE, dairyman, township of Dereham, sworn, said: I am deputy reeve of the township. I am engaged in dairying and have about 65 cows. I have over twenty-five years' experience in this line. I have not practised dehorning, but have been enquiring into it. I have seen a great deal of injury done by horns; I lost a colt from hooking and have had several animals ruptured; my daughter very nearly lost her life through being hooked by a cow, and my little boy also had a narrow escape. At the drinking trough there is much delay and inconvenience through the unruly conduct of some of the animals as they drive each other away; in every herd there is contention to see which of them will be boss. I brought in even new cows last fall and the whole herd seemed to make for the strangers: two were gored badly. Quiet in

the herd is very desirable. I do not believe very much in dogs as drivers. Rings on the horns are not always a reliable indication of the age of an animal. I saw a dehorned cow sold once and it was judged by its general appearance. I would go by the mouth a good deal. Six wrinkles on the horn generally indicate that the animal is eight or nine years of age. Feeding on sandy soil has a tendency to wear down the teeth. My wife is very much opposed to the practice, and I thought that from the pain of a broken horn the pain of dehorning would be correspondingly great. I was inclined at first to regard it as cruel, but the class of men who have gone into it at Brownsville led me to think it is not. I have not seen the operation performed, but I believe the pain cannot be very great if the animals do not show the usual signs of suffering. If I were purchasing and had a choice between horned and dehorned cattle, I would choose those without horns.

ENOCH B. BROWN, farmer, Dereham township, President of the Brownsville Cheese Manufacturing Co., sworn, testified as follows:

MR. DRURY.—How many cows do your factories represent, Mr. Brown? A. We have four factories and receive the milk of about 3,000 cows. Dairying is the leading industry in this neighborhood.

Q. About how many of these cows are dehorned? A. About 25 per cent.

Q. How many cows do you keep? A. About 20 or 25 head.

Q. Do you agree with the opinions of the previous witnesses as to the benefits of dehorning? A. Yes; most heartily.

Q. You believe it is an improvement to the cattle themselves? A. Yes, better in every way.

Q. Have you had experience in shipping cattle? A. Yes; when you bring together a lot of strange cattle you have to watch them to keep them from injuring one another. From the shipper's standpoint it would be a great advantage to have the horns off. I have seen train loads of dehorned steers coming into Buffalo with no marks on them, and all as nice and quiet as sheep. Shippers have told me that at Chicago dehorned cattle are worth from 25 to 50 cents per hundred weight more than the others, but I have never seen any special quotations in the market reports. The difference is in the ease and comfort of handling and the absence of bruises.

Q. What class of men have dehorned their cattle in your neighborhood? A. They are all men of some reputation who would not do it unless they believed it was a good thing. I have never met one of them who did not say he was more than delighted with the results of the operation.

Q. You are aware of the objections raised that when the horns are off there is danger of fraud as to the age? A. There is no danger, a good judge can easily tell; the teeth are marked like a horse's, and you can judge from the general appearance. It is true that the teeth are sometimes affected by the nature of the soil on which the animal pastures, but if the teeth are gone she would not be much use anyway.

Q. You do not regard the operation as a severe one? A. No. I have had about 50 head dehorned and I never had but one that I thought was affected in the least by the operation. I had some steers that were dehorned last fall; they were out in the field in a cold rain storm, and there was a yearling that acted as if he was off feed. I think the operation is like pulling a tooth, when it's out it's over; I have never had my animals show signs of pain; they seem to suffer ten times as much where the horn is broken; I am very strongly in favor of the operation. I think that the man who is humane to his cattle would have them dehorned. It certainly ought to be done in a proper manner and with proper tools, and the man who undertakes it ought to know something about it; I should think anyone doing the job in a bungling way ought to be punished.

Q. Have you noticed whether a young or old animal suffers most? A. I have not noticed much difference in the suffering. The younger ones bleed more.

Q. Do the dehorned animals show any propensity to bunt? A. No, those done a year ago last November don't seem to have any propensity that way.

Q. Is there much advantage in watering dehorned stock? A. Yes, they gather round the trough, as many as can get their noses in; there is more advantage at the trough than in any other respect.

Q. Should there be any application after dehorning? A. I think a tarred rag would be a good thing and the animals ought to be kept out of the cold for some time after.

Q. Have you tried the effects of caustic on calves? A. Yes, I tried it on a calf three days old; another two weeks, and on another about a month or six weeks old. The first was good but the other two were not so good. I think this would be a good thing if they don't learn the bunting habit. I intend to experiment further in that line and will of course drop it if I find that they take to bunting.

MR. GIBSON.—Mr. Hopkins' evidence goes to show that dehorned cows in 1891 gave an increase of about 2,655 pounds of milk more than those in 1890, is that your experience? A. Well, in 1890 we had 19 cows that produced 84,970 lbs., an average of 4,472. The cows were

dehorned on December 1st, 1890. For the season of 1891 the same nineteen cows, with three others added, in all 22 cows, gave the following result : Milk delivered at the factory, 99,849 lbs, an average per cow of 4,558 lbs. To the statement of 1891 must be added the milk that seven cows would produce in one month, which milk was consumed by 14 calves before being turned out to grass.

MR. DRURY.—Making allowance for that then, the average would be 4,770, and the difference per cow between the two years would be about 232 pounds--to what do you attribute the increase ? A. I attribute it to the fact that the cattle are quieter at feed and at the water trough. Cows kept quiet in the yard and lanes will give more milk than when they are being knocked around with the horns.

Q. Then dehorning represents a money gain to that extent ? A. Yes, besides the increased comfort in handling them.

LOUIS BATE, cattle dealer, township of Houghton, Norfolk county, sworn, testified :

MR. DRURY.—You are engaged in buying and selling cattle, Mr. Bate ? A. Yes, I buy cattle from the farmers and ship them to the Toronto and Montreal markets.

Q. Have you much difficulty from hooking when you bring strange lots together ? A. Yes, when we turn 20 or 25 cattle into a yard, they go to killing one another, and we have to watch them all the time. I have lost money by buying muleys, because they can't defend themselves and all the others will go for them.

Q. How many cattle is a carload ? A. About 20 is a good load and without horns we could put in 22. There would be less risk in shipping if the horns were off.

Q. Have you seen much damage from horns at the market ? A. Yes, the cattle hurt each other a good deal, and if you sell a damaged steer to a butcher he will make a difference in the price afterwards.

Q. Can you get a better price for hornless animals ? A. Yes, I bought 19 two-year-old steers and one cow, all dehorned, from Mr. Edward York. They weighed when sold 1,126 pounds, and one year before they weighed 555 pounds. This was a gain of 609 pounds per head in twelve months, and Mr. York told me that no grain or roots had been fed to them. I bought them in August and kept them until October. One day I found the whole twenty under the shade of one apple tree, and they seemed to enjoy life better without horns. I got \$3.75 per hundred for them, which was 50 cents per hundred better than any steers of their class sold for on that day in Toronto. They sold better on account of the fact that there wasn't a scratch on them.

HIRAM B. KINNEY, farmer, South Norwich, Oxford county, sworn :

MR. DRURY.—Have you dehorned your cattle, Mr. Kinney ? A. Yes, I dehorned the first ones three years ago last October. I assisted to dehorn a cow four years ago through reading of it being done in the States. I had a good many colts and I thought they would run together a good deal safer.

Q. Were you satisfied with the results ? A. Thoroughly so. On May 21st last (1891) I dehorned 27 head. Experience has confirmed me in the desirability of the practice. Before I saw it done I didn't like the idea at all, but after seeing it, I came to the conclusion that they didn't suffer near as much as I thought they would, they continued to eat as usual and didn't fall off in milk. I used an ordinary fine-toothed butcher's saw, and fastened the animal in the stanchion.

(Witness produced a section of the skull of a dehorned animal that had died 13 months after the operation. The cavity at the base of the horn was found to have completely bone over.)

DANIEL T. SMITH, farmer, township of Dereham, Oxford county, sworn, said : I keep 19 cows ; dehorned first in February 1890, and am perfectly satisfied with the results. The first season after dehorning I had an increase of about 200 pounds of milk per cow ; I was the first man in the neighborhood who had his cattle dehorned. In September before, I visited friends in Kane county, Illinois, 50 miles west of Chicago, and found that the majority of the cows there were dehorned. My son was out there too, and when he came back he proposed to take the horns off our stock. I favored it, but would not let him as I thought it would raise a row in the neighborhood. When I was away my son took off the horns, and the thing was soon talked of all over. We were abused a good deal, but lived through it, and the neighbors after seeing how our cattle thrived followed our example. Anyone accustomed to cattle would not be deceived as to the age of an animal that had no horns. I agree in general with what the previous witnesses have said. I do not think that dehorning should be done in summer. It should be done with proper tools and by some one who understood the business.

HENRY HELMKA, farmer, Brownsville, sworn, said : I have 30 head of cattle now, and am in favor of dehorning. Had fourteen dehorned last fall, by Mr. Elliott, and they healed well. Have seen a good deal of injury done by horns ; had a mare gored badly last summer, have had to go in with a club to keep my cattle quiet. Left the cattle out all night with an open shed into which they could go for warmth. In the morning found two or three were inside and all the others compelled to keep outside. Since dehorning they are all easily taken care of, and will lie down peacefully together. I would not take \$2 per head and have the horns on again.

ALEXANDER LAPIER, farmer, Bayham township ; sworn, said : I keep 16 or 17 head, mostly dairy cows. My experience of dehorning is that it is a success. I first dehorned two cows two years ago last April ; then fifteen a year ago this spring, and two more this spring. I am positive they are quieter in disposition than they were before dehorning. The first cow I had dehorned was not doing very well before that, and afterwards I noticed quite a difference in her. I knew a case where a cow bled freely from a broken horn, and on sawing off the horn the bleeding stopped.

ROGER W. HAWKINS, farmer, Dereham township, sworn, said : I am engaged in dairying and keep about 50 head. I am in favor of dehorning ; first had the horns taken off on November 20th last ; have had a good deal of loss from horns. I had a cow disembowelled while coming up the lane and she had to be killed ; another cow had its hip broken and I think it suffered more pain than any other animal I ever saw ; also had a number of less serious accidents ; going to the water trough was a great source of annoyance. I have seen more hooking there than at any other place ; since dehorning there is no trouble in that way, and I find it very much easier to handle cattle : I can open the stable door and let the animals come in as they please, tying them up whenever I have leisure. I have not tried caustic but I have taken off the budding horns of three calves with a knife, and I notice that they are starting to grow again. As Mr. Bate said, I have seen 20 cows gather under the shade of one tree or barn, and I think from that the operation is a good thing for dairy cows. The patrons of the cheese factories claim that their supply of milk to the factories is larger than before and that it is better milk. I don't approve of turning freshly-dehorned cows in with muleys, as the latter will often start bunting and cause a second hemorrhage. The fall is the best time for the operation.

IRA HARRIS, farmer, Dereham township, sworn, said : I am engaged in the dairy business and keep 14 head. Had my cows dehorned at the beginning of the year and my experience is that it is a complete success. Have heard the evidence of previous witnesses and agree with them.

WILLIAM BRADY, V. S. Tilsonburg, sworn, said : I have been in practice here since 1873 and have had a large experience with cattle ; have attended to a large number of animals both cattle and horses that have been injured by horns ; I believe that dehorning is practicable. My opinion before I saw the operation was that it was not desirable ; since I have seen it a good deal I have become quite convinced the other way. There is a certain amount of pain in the operation. I do not see that it makes any material difference whether animals operated on are old or young. From two to three months is the average time for fully healing up. The healing as a rule is perfect. From what I have seen I consider that the operation is a beneficial one ; it seems to make the cattle quieter and safer in every way. The operation should be well performed and with proper tools. I think the horns should be taken off close to the head, as they will heal more quickly then ; I think that practically the pain is over when the horn is taken off. Castration I consider to be a much more painful operation than dehorning. An animal would suffer more from a broken horn than from having the entire horn removed quickly ; I have not dehorned cattle myself, but would do it if necessary ; I certainly think it very necessary to have the operation well done where it is done at all ; there should be a good saw, well oiled each time, and the animal should be properly fastened, so as to lose as little time as possible ; I examined cattle at different times after the operation and did not find any constitutional disturbance. Have had the care of 70 head after dehorning ; I have examined the membrane linings of the head. There is a mucous membrane, and we hold that a mucous membrane is not very sensitive ; the most sensitive part is close to the skin and does not extend far in, if it did there would be a formation of pus and suppuration. The wound seems to heal by first intention. I have seen a mucous discharge, but that is a discharge that nature provides for the healing of the wound ; there was no pus discharge in any I have seen, but in one or two cases after the scab had formed over the parts I found, upon raising the scab, a very small quantity of pus lodged underneath. A mucous discharge is no sign of pain, even if it were running down the face ; it is simply the exudation of matter that is closing up the part.

HARRIETSVILLE, MAY 13.

The Commissioners arrived at Harrietsville shortly after 8 o'clock, Friday, May 13. Before meeting to receive evidence, the farm of Mr. William York was visited, and as this is the gentleman who was prosecuted at London for allowing his cattle to be dehorned, special interest was taken in the inspection of his herd. The cattle were out on the pasture, but were driven into the stable in order that they might be closely examined. There were about 40 head altogether, and all were without horns. They appeared to be in good condition, and the Commissioners, in their brief visit, saw nothing but what was of a highly satisfactory character. The hearing of evidence was commenced at 9 o'clock in the Harrietsville hall, a large gathering of farmers from the surrounding country being present.

EDWARD YORK, farmer, Dereham township, Oxford county, sworn, gave the following evidence :

MR. DRURY.—I understand you are engaged principally in dairying, Mr. York? A. Yes, I keep from 25 to 30 cows for dairy purposes.

Q. You have had considerable experience with cattle? A. Yes, for the past 45 years.

Q. You have heard the evidence of witnesses, do you agree with them as to the loss and inconvenience owing to horns on dairy cows? A. Yes, with regard to the loss, I have sustained greater loss than most of the witnesses speak of. I have lost \$300 in horses and other stock since I began farming, and I have seen one animal kill another with the horns; they frequently break their horns and it has become a general and continual annoyance; then there has been great difficulty at the watering trough. I consider the horns a nuisance to the beast, and not safe for the men; I had to have a bull shot once it came so near killing the attendant.

Q. You have dehorned your cattle? A. Yes, I started a year ago last November.

Q. Have you observed a change for the better since the operation? A. A very great change.

Q. What are the advantages you have experienced from the practice? A. They are quiet to one another, and are safe to horses, men, hogs and sheep.

Q. From the standpoint of humanity to the animals themselves, do you think that the operation involves suffering much in access of the injury they would inflict upon each other? A. I consider it a humane act to the animal, and saves a great deal of cruelty, besides being more profitable; I believe they will give more milk, through being kept more quiet, and that the milk will be better than that given by horned cattle.

Q. Would you say it would be equally effective to prevent the growth of horns in the calf? A. I would not say that altogether, because I am afraid that in growing up they would learn to butt. I prefer to have them grow up with the horns and then take them off properly when they are about two years old; they lose their weapons then and are quieted.

Q. Do you think there is a possibility of fraud as to age? A. No; I think there is something in the appearance of an animal that suggests its age; we get accustomed to looking at the horn, but they can be fixed up by obliterating the rings; without the horns I would judge largely by the mouth; if an animal had a good mouth I would say it was a good animal; and if it was wanted for beef, I should think the general appearance would be the main thing.

Q. Do you think that man is justified in inflicting pain upon domesticated animals under any circumstances? A. Yes; if the benefits derived are proportionate. I consider that castration is justifiable, and that dehorning is not so severe an operation.

Q. How do animals act during the operation? A. Some of them don't flinch at all; others will make as much fuss before as during the operation; the horns can be removed in from three to ten seconds; after the animals are let loose it is a rare case where they show pain; they eat as usual, and next day they appear as well as ever they did. There is about as much difference in the milk yield as there is after a coldish rain storm in warm weather, a little falling off, but not much. I have held about 300 or 400 while they were being dehorned. When the saw starts there is a little flinching, but after the saw is well through, you hardly notice anything. On the second horn the animal is more apt to twist its head, but almost always the pain is only momentary.

Q. In looking over a herd of cattle could you readily detect a sick animal? A. Yes, in walking up the alley among the animals I could tell at a glance whether they are all in health or not.

Q. Did you see any signs of ill-health among those cattle that were dehorned? A. I have only noticed one that didn't do as well as the rest, and we have dehorned sixty. She seemed to lose her appetite for a little while, but afterwards went on all right. Another got hurt and discharged more than they generally do; I knew of three horns that had a discharge from which there was an odor, but the others were simply a mucous discharge.

Q. Having dehorned your own cattle and assisted in the dehorning of others, do you say that the good results are sufficient to warrant the operation? A. I do—there is no doubt about it.

Q. What class of men have engaged in the practice? A. The best class of men—magistrates, church-going people, and leading farmers generally.

Q. And are they all satisfied with the results? A. Yes, they are all satisfied that the horns must go.

Dr. SMITH.—Have you noticed if old or young cows suffer most pain in the operation? A. The young cattle suffer most, I think, for this reason: The horns of young cattle will grow a little, and in order to make a good job of it we remove a little of the tissue and hair.

Mr. GIBSON.—Have you known any of your neighbors who have lost animals, or who have had animals that suffered much through dehorning? A. No, I never knew of a neighbor or farmer who performed the operation and was sorry for it afterwards. If there should be legislation on this question, I want to say that I consider it is a simple operation. Any man who owns a herd of cows and takes care of them is competent to say how it should be done, and will not have them injured unnecessarily. I think the matter quite safe in our hands.

Mr. DRURY.—Supposing there should be legislation, would there be any objection to saying that the operation should be performed by a skilful operator, with proper tools and under proper conditions? A. I would be satisfied with that, only for one thing—suppose I were to buy a cow to-day or to-morrow, it would be a very inconvenient thing for me to run around looking for a man to perform the operation; we, as men who have been prosecuted, are sensitive about this. If there are regulations, any man might bring an action against me.

Q. Take a man for instance, who might get a good saw by going half a mile, but who rather than go that far would use an old bucksaw to perform the operation? A. We would not do that. There is danger of making this thing so tight that some fellow may bring an action any time, and let you in for all sorts of costs.

Q. You are not willing that it should be set forth that the operation must be skilfully performed with proper appliances? A. I would be willing to go in for that, if it were not for those men—snides, I call them—who are always giving trouble.

Mr. GIBSON.—You admit that the operation requires proper appliances and proper tying? A. The operation is so simple that anyone may undertake it. There may be a mucous or pus discharge, but take the operation of castration in horses, that doesn't always go right, but you could not blame the man who performed the operation; things will go wrong sometimes.

Mr. GLENDINNING.—Do you take the horns off bulls? A. Yes, I never keep a bull now with horns, and I find it has a quieting effect on them.

HENRY JACKSON, farmer, Gladstone, North Dorchester, sworn:

Mr. DRURY.—You are engaged principally in dairying, Mr. Jackson? A. Yes, I have thirty-five cows, and have all along been engaged in dairying. Have also bought and shipped considerable cattle.

Q. You have heard Mr. York's evidence—do you agree with him? A. Yes.

Q. Are your opinions as pronounced? A. Yes.

Q. You agree that the operation is attended with comparatively little suffering to the animal? A. Yes, it is not so bad as I thought it would have been. Immediately after it is hard to see any signs of pain. I have not dehorned my own cattle. I hesitated because of the trial and thought it would be better to wait. Had arranged to dehorn my herd when Mr. York was summoned. I believe that the operation is a humane one, in that it prevents pain to the animals as a whole.

Q. What is your experience as a shipper? A. Well, I handle about 200 head in a year; when gathered at the station yard they hook and gore themselves; several times we had to drive them apart. I have seen them gore terribly bad at Buffalo, and the loss in this way is serious. A buyer would make a reduction—perhaps five dollars a head—if he notices that the animals are bruised.

Q. If all the horns were off and you were going round buying, would there be much danger of being deceived as to age? A. I think not. I would go by the look of the animal and the teeth.

Q. Then you see no reason why the practice should not be allowed? A. No; of course I agree that it should be properly done. It would be brutal to take the horns off with a dull saw. I think all the men in this neighborhood would do it well and properly, and I would not favor having the matter limited too much.

Mr. GIBSON.—We are not speaking now of a veterinary surgeon, but of a practical man who knows something about it? A. Well, it would be a good thing, but it depends on what you mean by a practical man.

Mr. DRURY.—Do you consider that dehorned animals are worth more than those with

horns? A. I think dehorned animals will bring more on the market, from being likely to be free from bruises.

Q. Will animals without horns take up less space in a car? A. I don't think it makes much difference that way, but I have seen lots of cases where an animal gets down in the car, and in trying to rise will run its horns into the others. Then they often break their horns in the rails of the car. I would like to say that shortly after Mr. York was summoned I went and looked at his cattle and they seemed to me to be all right.

RICHARD TOOLEY, M. P. P., North Dorchester, Middlesex county, sworn:

MR. DRURY.—In addition to being a representative in the Local Legislature, you are engaged in farming, Mr. Tooley? A. Yes, I farm on a small scale. I used to be extensively engaged in the cattle trade. I have shipped 1,000 to 2,000 head per year, running through some twenty-five years, and all the way from Chicago to New York.

Q. You personally supervised the shipment of cattle? A. Yes, my chief business was in local buying.

Q. What is the usual conduct of strange cattle when they are brought together? A. They are liable to be cross and ugly with each other. There is a disposition among them to fight for supremacy, and as a result of that there is considerable damage. Then on the cars there is the damage from hoisting, tramping and broken horns.

Q. Would there be a loss in selling at Toronto market through hooking? A. Yes, if there was one badly damaged there would be a reduction in the price paid for the animal. Even after the sale of a load of cattle to a butcher, you are still responsible for any that may have been bruised. I have had to throw off five or six dollars in many cases, through bruises being discovered after the load was sold. I would say that about one in forty would be damaged. You very seldom see a load where one is not hurt. We had a case near here where two out of a car-load were killed and one a loss to the extent of fifteen dollars. I can't say that this was altogether from horns as there should have been a man there to take care of them.

Q. Would you be in favor of taking the horns off if satisfied that it did not involve a considerable degree of suffering? A. I think if it could be shown to the public at large that a greater amount of good can be accomplished by the practice, and that the suffering is not great, it would be a good thing.

Q. Are you personally satisfied that the good is in proportion to the pain inflicted? A. I am quite satisfied that the pain is very little. I have seen four dehorned, and if I had a herd of dairy cows I would be most decidedly in favor of dehorning them.

Q. Would you say that the practice ought to be limited to men having a practical knowledge of the operation? A. Well, I think that a man who is a good all-round hand, and is a sensible man, will do it well. I think, of course, it should be done in a proper way. If it could be clearly shown that a man was guilty of wilful negligence, and if damage or loss, or extreme cruelty were shown, then the man ought to be held responsible for it.

Q. Do you think there is a possibility of fraud as to age without the horns? A. I do not think that a man with any experience would be deceived. Of course some might be, but such men would not be able to tell whether they were buying a cow or a steer.

Q. You believe that if there was much suffering in dehorning, there would be some indications of it? A. Yes, I never had an animal that was in pain that would not show it. I went to see the operation, as much prejudiced against it as any man in Ontario could be. I considered that it was wrong beyond dispute, but when I knew it was favored by Mr. York, whom I have known for thirty-six years, and who is one of the kindest men I have ever known, I became convinced that it could not be a wrong or a cruel thing.

Q. Is this practice followed by men of good standing in the community? A. Yes, I can speak of them in the most positive terms. There is only one thing wrong with them, and that is that they are mostly on the wrong side of politics. They are men of probity and honor, both here and at Brownsville.

MR. GIBSON.—Have you ever known a man who performed the operation and was afterwards dissatisfied with it? A. No, they are everyone highly pleased, and say that if they hadn't it done, they would have it done at the earliest possible moment.

JAMES CHARLES DANCE, farmer, South Dorchester, Elgin county, sworn:

MR. DRURY.—You were at one time the representative of East Elgin in the Local Legislature? Yes.

Q. Are you engaged in dairying, at present? A. I have been dealing in stock to some extent. Have been dairying of late years, and had over thirty cows last year.

Q. Do you agree with Mr. York and other gentlemen, as to the inconvenience experienced in handling cattle with horns, and as to the profitable advantages of dehorning? A. Yes.

Q. Do you substantially agree with Mr. Toolcy in his evidence as to the buying and shipping of cattle? A. Yes.

Q. And you say that if the horns were removed it would be of great advantage in shipping? A. Yes. I was bitterly opposed to the practice until I heard the opinions of men who had some experience with it. I am now quite the other way. I think the evidence of men of Mr. York's standing would break down any opposition I would have to the practice.

Q. Taking all the advantages into consideration, as a shipper and dairyman—and looking at the question from the standpoint of the animals themselves, would you say that the practice should be allowed? A. Yes.

WILLIAM V. NIGH, farmer, Avon, Middlesex county, sworn:

MR. DRURY.—I understand you were prosecuted, Mr. Nigh, for dehorning your cattle? A. Yes, I dehorned my cattle on December 27 and 29, 1890, and in February, 1891, an action was entered against me.

Q. How did the case end? A. It was dismissed.

Q. What led you to perform the operation? A. I had a vicious cow that I considered had killed a cow that I found dead in the field. With the help of a neighbor I took its horns off, and when I saw how little it suffered, and the way in which the others went for her, I decided to take the horns off the whole lot. They all did well except one cow; she got fighting and hurt the stump, and it was a considerable time in healing. I cut them off in about half an inch of the head, but I find now it is better to take them off close to the head, as they look better, and I think they don't suffer as much. I was the first in Middlesex to dehorn. I thought it was a brutal thing until I performed the operation myself, and then I saw that it was not so bad as I expected.

Q. Now, you have an experience of 18 or 19 months, have you ever regretted it? A. No, I certainly would do the same thing again unless the law says I must not. I did not see any signs of illness after the operation; the milk did not fail off much, and I never had cattle so easily handled in the winter, or that came out so well in the spring. The case cost me about \$50, but the improvement in the animals was equal to the expense.

To MR. GIBSON.—I think that the younger animals suffer more than the older ones. If it could be done successfully, I would be in favor of preventing the growth of horns on calves. I would not recommend any preparation being put on the horn after the operation. I put on tar cotton and a woollen cloth over that, making it air tight. Next day on examining it I found it popped like an air gun. I think that the gas had accumulated in the cavity. It took about six weeks for the sinuses to heal over.

JAMES ROUSE, farmer, Dorchester, Middlesex county, sworn, testified as follows: I keep 38 dairy cows. Have not dehorned my cattle, but have seen the operation performed on two animals. I was summoned as a witness for the Crown in the York case. I told the constable I would rather be left out, because I had no experience, and I did not want to say anything against Mr. York, as I had known him so long. I believed they would not have done it unless they thought it was a proper thing. I thought it was a cruel thing, but after I saw the operation I found it was not as bad as I thought. I went to Mr. York's to see the operation, and carefully watched the animal throughout. From the time the cow went into the stanchion until it was out in the yard without horns was only a minute. I think a man with any experience among cattle could tell whether an animal was suffering or not. It was far different from what I expected: the bleeding was less, and the pain seemed to be only momentary. Then I visited a number of herds that had been dehorned, and the animals all seemed to be doing well. I saw no injury as a result of the operation. In fact, my mind now is that if there is no law against it I would have my cattle dehorned within 24 hours. I think that the law should allow it. It certainly is cruelty to animals in a large herd the way they gore each other. Then if the horns are off a man can go to bed at night feeling that his cattle are in no danger if one or two should get loose. I visited Mr. Hawkins' place and saw his herd drinking. I counted 11 drinking out of the tank at once, and in 8 minutes they were all satisfied and went away. I have a trough 8 feet long, and when I turned my cattle out to drink they were an hour and ten minutes before they were all through—28 of them. I am what the London *Advertiser* calls a "converted dehorner." If it involved great suffering I would not advocate it. Every man I ever heard of is satisfied that it is a benefit to the stock and to the cattle themselves.

ROBERT FACEY, cheese-maker, Harrietsville, sworn, gave evidence as follows: I manage the Harrietsville cheese factory. We made 258 tons of cheese last year, and received the milk of about 1,200 cows. I am now in favor of dehorning cattle, but thought at one time that it was a cruel practice. I changed my opinion by seeing the operation and noting the results as seen in the cheese factory. Mr. Wm. York's cows were dehorned on the 6th of November, and after

dehorning they gave just as much milk in proportion as the cows that were not dehorned. I do not claim that there was an increase, but I do claim that there was no decrease. Here is the record in the factory books for two weeks of Mr. York's cows, and of my own herd, which was not dehorned:

Dehorned cows.—Tuesday, 510 lbs.; Wednesday, 500; Thursday, 504; Friday (day of dehorning), 475; Saturday, 374; Tuesday, 485; Wednesday, 431; Thursday, 332; Friday, 418; Saturday, 393. The average was $472\frac{3}{4}$ the week before, and $421\frac{1}{2}$ the week following dehorning.

Cows not dehorned—Tuesday, 405 lbs.; Wednesday, 360; Thursday, 368; Friday, 362; Saturday, 356. Second week—Tuesday, 403 lbs.; Wednesday, 352; Thursday, 321; Friday, 353, and Saturday, 296. The average for the first week was 370 1-5, and for the second, 346.

Mr. FACEY.—This record shows that while there was a falling off in Mr. York's case, there was about an equal falling off in the other herd where the horns had not been removed. Mr. York also claimed that his herd had practically nothing to eat the day of dehorning until 4 or 5 o'clock and this should be allowed for. It is my duty to see that we get good milk, free from any taint, at the factory. To detect and reject tainted milk is one of the most important points in cheese-making. I think we would notice it, not only in the odor, but in the working of the curds. I examined carefully the milk coming from dehorned cattle, but could not see anything the matter with it. I looked specially at the milk the day after the operation, and if I had found the least difference, I would have rejected it or set it aside. We have had bloody milk delivered at the factory, owing to the goring of the udder, and we have had to reject it. I think the operation should be performed in cool weather and not in fly time.

JOSEPH FRANKS, farmer, Dorchester, Middlesex county, sworn: I keep twenty-five cows. I have not dehorned my cattle, but would have done so last fall if I hadn't intended to dispose of my farm. I saw Mr. Hopkins' cattle and asked him where he got so many muleys and he told me they had been dehorned. I have not lost any animals by hooking, but I have had them badly injured. I do not think that knobbing cures the tendency to hook. I purchased some animals with knobs on and it didn't seem to do much good. I consider that all loss would be practically done away with by taking off the horns, and that it would be a perfect pleasure to go up and down among your cattle. In judging the age I do not depend upon the horns. I think if a cow has good teeth she's all right. Cows generally decrease in value after ten years, but some of them are good up to fifteen or seventeen years. I agree with what has been said by other witnesses in favor of dehorning. I think there should be some provision that any one making a bungling job of it should be punished, because it is every man's duty to get the best instruments and have the work well done. The fall I consider, is the best time for the operation. I have a muley cow and when she rushes in to drink, the others seem to know that she is defenceless and won't interfere with her. Then I bought two dehorned cows and these two are attacked more than any others in the herd.

BENJAMIN COOK, farmer, Avon, Middlesex county, sworn:

Mr. DRURY.—Are you the owner of cattle, Mr. Cook? A. Yes, I have only about three just now, but have had as many as twenty. Have had to do with cattle all my life.

Q. Have you had inconvenience from the horns of cattle? No, I have not seen enough damage to cattle to justify the present operations.

Q. Do you let other stock run with your cattle? A. Yes, but I have a colt that I could not let into the pasture with the cows; it would run them over the fence.

Q. You have not dehorned your cattle? A. No, I see no necessity for it.

Q. Have you seen the operation performed? A. Yes, I saw it the other day with the Commission at York's.

Q. Now, suppose a man believed there was considerable benefit, and assuming that the operation was attended by pain, do you think he would be justified in resorting to it? No, the operation must be a painful one—it certainly is, and it looks to me to be fraudulent. The horns are a splendid guide to the age.

Q. You think that the buyer would be at the mercy of the seller as to the age of dehorned cattle? A. Yes, I think he would.

Q. Have you ever seen cattle horn one another at the watering place? A. Sometimes they push each other out of the way but I can't say that I ever saw much injury in that respect. I can see no occasion for this dehorning, unless in the case of a vicious bull or cow. In such a case it might be justifiable, but that is no reason for taking the horns off the whole herd.

Q. Do you consider castration as justifiable? A. Yes, it is a custom and it is a necessary cruelty.

Q. Which would you say was most painful to the animal—castration or dehorning? A. I hardly think that dehorning is as painful as castration.

Q. If in evidence it were shown that shippers and drovers unanimously complain of loss and injury from horns, would you then say that the operation was a justifiable one? A. No, I can't see that dehorning is justifiable in this age. In shipping cattle I think they ought to be tied up and have room to lie down in the cars.

Q. But that would involve considerable cost to the shipper? A. Can't help that. I think that the dumb animals should be properly treated. In the yards at the stations and markets they ought to be tied up and properly watered and fed.

Q. You believe that the circumstances do not justify the pain inflicted. A. Yes, the animal does not deserve such treatment.

Q. Do you not think that the pain is during the actual time in taking off the horns? A. I can't say that there was particular evidence of suffering. The cattle started to eat afterwards, but they appeared hungry, and I guess they didn't have much before that.

Q. You think that an animal may suffer pain and yet go on eating? A. Yes.

Q. Do you agree that a man who is among cattle constantly will readily pick out one that is sick? A. Yes, I think he could notice it.

Q. Have you seen cases of broken horn? A. Yes.

Q. Did that impress you that they suffered a great deal? A. Yes, they appeared very sensitive and almost refused to eat; would hold their head to one side and sometimes get away in a corner by themselves.

Q. Now, did you see any suffering of that kind among the cattle at Mr. York's? A. No, not so much suffering as from broken horns, but an animal might be suffering considerable pain and yet not show signs of it.

Q. Is your opinion based upon a study of the animal's head? A. No, but from the cavity it appears to me that there is a close contact with the brain from those openings. I believe there is a thin lining there, and that the nerves that run through the horn must be connected with the brain. The animal may not show it, but the operation must cause stinging pains at times. No man can tell what the suffering may be.

Mr. KELSO.—You believe that financial benefit would not be a justification for the operation? A. Yes, no consideration of that kind ought to come into the settlement of this question. On moral grounds I can see nothing that justifies dehorning. It seems to me that in this age of civilization we ought not to inaugurate a new cruelty.

Mr. DRURY.—Would you be influenced by the judgment of men who are of good standing and are respected in the community, who say that they were at first opposed to the practice, but having seen it and its results are now in favor of it? A. No, because these men have made money out of these cattle. They have built fine houses out of their profits and I think they ought to be content to leave the horns on.

Q. Suppose it can be shown that there is no decrease in the flow of milk of a herd that has been dehorned? A. My impression would still be that there was no justification for the operation. Two weeks or six weeks after when I find them suppurating under ordinary circumstances—where they are turned out to rough it—how can you come to the conclusion that there is no suffering? Some time ago I visited Mr. Gracey's farm near Springfield, and some of his cattle had a running sore for six weeks. He told the men to quit dehorning when they got four done. Two of them looked fairly well—the horns were dried up—but the other two were discharging severely, and I thought they would die. This was in March, a year ago, and they had then been done six weeks.

JOHN C. LAWRENCE, farmer, South Dorchester, Elgin county, sworn, gave evidence as follows: "I have about twenty head and have not practised dehorning. I am opposed to it. There are lots of men who would not do it, but they say let others do as they like. I have raised cattle for about forty years and I see no necessity for it. I never knew of one animal being killed or seriously hurt by the horns. I think, perhaps, there was one sheep killed, but that was all. It is true that some animals will drive the others. I admit that quiet in a herd is a good thing. If I had vicious animals I would get rid of them. I don't want to see the horns taken off. I saw the operation performed the other day at Mr. York's. The animal did not seem to suffer much. These men are looking to make an extra dollar or two. Most of those who have dehorned their cattle here are friends and neighbors of mine. They are progressive men, and I have always looked upon them as men of kindly hearts until they started this practice. We have always been trying to go ahead, but I look upon this dehorning business as a step backward. I have made up my mind against dehorning and nothing that I have seen would make me change round. I believe a quiet disposition can be encouraged in animals if you breed for it."

WILLSON McCREDIE, farmer, South Dorchester, (Reeve of the township), sworn, said: "I have been engaged in dairying, and milked about thirty three head last year. I dehorned my cattle in November or December last year. Got L. A. Brown, V.S., of Aylmer, to do the work.

Some time ago I got interested in the question, and wrote to parties in the western states about it. These people recommended it, and knowing them to be humane, christian men, I felt that it would be to our interest to do it. I got all the information I could, and to make sure I engaged a veterinary surgeon to perform the operation. I felt that it would be a very painful thing, and if I had been called upon to do it myself, I could not have done it. I was quite satisfied with the results. My cattle did not show any signs of suffering, particularly after the sow left the horns. There was more blood from the younger than from the older animals. I have in my herd four cows that should have been turned off last fall on account of age. However, I dehorned them with the others, and now they appear five years younger than they did. I consider this partly the result of dehorning as they hadn't as much grain as in the previous year. I am satisfied that the cattle themselves have been gainers from dehorning. They have thrived better; have had no punishment from each other and have been in a constant state of quiet and peace. Another thing I noticed was this, if one of my cattle with horns gets its head in the straw stack and then hears a step, it will back out to see who or what is coming. Since the horns are off they don't care a rap who comes. The sense of security obtained in this way must be a great benefit. The good effects far outweigh the momentary pain of the operation. I don't see that any legislation is necessary on this question, because as the law now stands a person guilty of cruelty can be punished. I think that the man who properly performs the operation should not be interfered with."

JACOB KEESLER, farmer, South Dorchester, Middlesex county, sworn, said: "I own thirteen head just now -dairy stock. Have not dehorned, because I do not see the necessity for it. I think the horn is a guide to the breed and the age. I prefer cattle with horns--don't care much for muleys. Have not had very much loss from hooking. I think we ought to stop dehorning, clipping the tails of lambs and docking horses. I would like to see my neighbors give up these things and treat the dumb animals kindly."

RUDOLPHUS C. MCKENNEY, sworn, gave evidence as follows: "Am engaged in farming to some extent, and am residing at present in Aylmer. Have lived about nine years in Dakota and handled sixty or seventy head of cattle. There is a good deal of dehorning done there. The percentage would be fully half I think. They are adopting the plan of dehorning and allowing the cattle to run loose in the stable."

JOHN M. O'NEIL, farmer, South Dorchester, sworn, said: "I have not had my cattle dehorned, because I thought at first it was a very cruel thing. I went and looked at Stephen York's herd that had been dehorned. They seemed to me to be nice and quiet and to feed nicely together. I saw the operation at Edward York's place. I watched it closely. It seemed a very simple thing, without much punishment and scarcely any bleeding. I am in favor of dehorning now and intend to have my cattle dehorned, as I think it will prevent the punishment they inflict on each other. A year ago I had an animal killed by goring, and besides that it cost me \$4 for a veterinary surgeon. Then I had another animal killed three or four weeks ago.

JAMES MEIKLE, farmer, South Dorchester, Elgin county, sworn, said: "I keep thirty head of cattle for dairy purposes. Had three dehorned last winter. Am in favor of the operation and intend to dehorn my herd if it becomes law, because I think they do better."

WILLIAM SHACKELTON, herdsman, Harrietsville, sworn, said: "Am employed to look after the cattle on Stephen York's farm. I have held about fifty animals while they were being dehorned. I was a little opposed to it at first, but if I had a herd of my own now I would have the horns taken off. They get over it quickly and they are much easier to keep. The neighbors all say that our cattle are in better condition now than they ever were before."

The Commission then adjourned to meet at London on Wednesday, June 1st, at 2.30.

LONDON, JUNE 1st.

The Commission resumed the hearing of evidence in the County Court House, London, on Wednesday, June 1st, at 2.30. In the temporary absence of the Chairman, Mr. Henry Glendinning presided.

MR. JOHN GEARY, farmer, London Township, being called and sworn, gave evidence as follows: I am President of the Western Ontario Dairymen's Association, and President of the

Weekly Market Association of London. I keep 64 cows and have kept from 125 to 150. My cattle are not dehorned, but I am in favor of the practice. I dehorned from 15 to 25 head about four years ago this spring, and I don't think there is so much pain as in castration.

Q. Do you consider that the benefits from dehorning are commensurate with the pain inflicted? A. Yes; I am quite convinced they are. I believe it is a humane thing to do. When cattle have their horns on some of them are very bossy; when they go to drink two or three will stand there and prevent the others getting near. Then they are constantly hooking.

Q. Do you think that dehorning gets over all these difficulties? A. Yes; we always found that polled cattle were quiet and disposed to be quiet, while horned cattle were unruly and inclined to hook each other.

Q. Have you had losses owing to the horns? A. Yes; I have had them hook each other pretty badly. I lost a colt by hooking two or three years ago. I had two horses gored but they got over it.

Q. You say you have performed the operation and have 64 now that are not dehorned; how is that? A. Well, when this trial came up it didn't look like a safe thing to do. I would have dehorned my herd in the spring if this prosecution hadn't been commenced.

Q. Do you regard dehorning as a humane act and believe that the suffering is more than balanced by the good results? A. Yes, most decidedly.

Q. If you were purchasing and had a choice between horned and dehorned cattle, which would you prefer? A. I would certainly give preference to the dehorned cattle. If I were buying 100 head, everything else being equal, I would give \$200 more for those without the horns, or about \$2 per head.

Mr. GIBSON.—You say you performed the operation; what is the proper age in your opinion? A. I have performed it on calves and yearlings. I tried caustic and could not succeed with it. Perhaps I didn't do it right. I should think the use of the gouge on calves would be more painful than the other method.

Q. Don't you think it would be better to breed horns off than to cut them off? A. They can be bred off, but I don't see the necessity of waiting for that.

Mr. KELSO.—Would you approve of the dehorning of all the cattle in this province used for dairying? A. Yes, I think it would be a great benefit to the business.

Mr. GIBSON.—What about fraud as to age if the horns were off? A. I don't think there is much in that.

Q. What time would you consider the best for the operation? A. April or November, or any cold time would do, provided the animals were kept in a comfortable place.

Q. As president of the Dairymen's Association, suppose a herd of cows were dehorned in May and had a discharge of pus, would you regard the milk as fit and proper to send to the dairy? A. I don't think it would damage the milk at all.

Mr. KELSO.—Are there any cattle dehorned in this neighborhood at present? A. No, but since the prosecution there has been a good deal of talk in favor of it.

CHARLES S. TAMLIN, V. S., London, sworn, gave evidence as follows: I have been a veterinary surgeon from three to four years, and completed my studies in Toronto. I have not performed the operation of dehorning, nor have I ever seen it done.

Q. Have you seen any animals that have been dehorned? A. Yes, I paid two visits to William York's farm for the purposes of the prosecution.

Q. How long after the operation? A. The first time was two weeks after, at the request of the president of the Humane Society; the second time was about six weeks after the operation. There were about thirty cows that had been dehorned. On my first visit I only examined the cattle casually; seven or eight of them were shaking their heads, and were discharging pus from the cavities. They would not stand to let me touch them. On my second visit three or four of the cows were discharging pus, but I would not consider they were suffering as much as on my first visit. A discharge of pus shows that an inflammatory process has taken place in the cavity exposed by cutting off the horn. This would affect the health of the cow, causing a certain amount of fever, and would also affect the nervous system owing to the more direct contact with the air through the cavities to the brain. By sawing off the horn only the inner wall is left to protect the brain. This inner wall is only $\frac{1}{16}$ to $\frac{1}{8}$ of an inch in thickness, while the outside wall is $\frac{1}{4}$ to $\frac{1}{2}$ an inch thick. I think the removal of this outer wall would have a serious effect on the nervous system.

Mr. GIBSON.—Having been sent to examine these cattle did you take the temperature? A. No.

Q. If there was a discharge of pus would there not be a rise of temperature? A. Yes, but there could be a discharge of pus without an increase of temperature.

Q. Now, as to this pus, how did you know it was pus? A. From its appearance; I saw there was a soreness. On pressing my finger on the spot the discharge would ooze out, and I concluded it was pus.

Q. Might it not have been simply a mucous discharge ? A. No, it was not like mucous ; I have no doubt it was pus. This was six weeks after the operation.

Mr. KELSO.—How much suffering do you consider is connected with the operation ? A. I believe the pain lasts for about eight days after the operation. It would be acute during the actual sawing, slowly going away as healing takes place.

Mr. GLENDINNING.—Do you consider that where there is a discharge of pus the milk would be affected. A. Yes, I would think so. If there is a discharge from the nose the cow will lick it, and in that way it would go into the stomach and must affect the milk.

Q. You say that Mr. York told you there was a falling off in the milk ? A. Yes, he said that they fell off, but that they came up to the usual quantity in about three days.

Q. Now, if there was fever, would they come up in that way ? A. It is generally an indication that the fever is not very great if the milk comes up so quickly.

Q. In the case of a vicious bull would you favor dehorning ? A. Yes, if it is very vicious I would say dehorn it ; but I don't believe in dehorning simply for the sake of making money out of them.

Mr. KELSO.—Do you think that animals might be in great pain without giving any indication of it ? A. Yes, there are usually signs, but an animal may be suffering without showing it greatly.

Mr. GLENDINNING.—When the horn cavity is completely healed over would it be with a bony tissue ? A. Yes. The cavity in the horn is at no time during life after development fitted with any substance in it, except the lining membrane and core. The opening is more sensitive at the base of the horn than it is farther up. My opinion is that the horn, if removed, would cause less pain if cut farther up, as there is no sensitiveness in the consolidated portion of the horn.

WASHINGTON A. ELLIOTT, being sworn, said : I am engaged in farming and reside in Dereham township, county of Oxford. We have at present from 50 to 75 head of cattle. I have given a good deal of study to the question of dehorning and have taken the horns off about 400 head. I first commenced about two years ago this last winter. A friend of mine from Kansas spoke to me about the benefits of dehorning. I was greatly prejudiced, and ridiculed the idea. I admitted, of course, that it would be a great benefit to have no horns, but I thought to cut the horns off would be great cruelty. After witnessing the operation performed by Chauncey Smith, a neighbor, I was so favorably impressed that I went home and performed it myself on our own herd. I have since done a great deal of it for neighbors, and in consequence of the recent prosecution I have looked into the subject pretty thoroughly.

The first consideration in dehorning cattle is to properly secure the animal. For this purpose a strong stanchion is required. This is constructed of two upright scantling, or small round poles five or six feet in length, one of which is stationary ; the other is made fast at the lower end, while the upper end can drop back to allow the animal's head to pass in and out. These should not be more than six or seven inches apart when closed.

A stout rope, in one end of which a ring is fastened, is thrown over the neck so that the ring comes under the throat ; the rope is doubled and the double passed through the ring ; the noose thus formed placed over the nose. This forms a halter, the other end of which is held taut with a windlass or lever. A small set of pulley blocks with a small rope to run them answer very well and are quickly operated.

The animal is then drawn forward until the shoulders rest firmly against the stanchions. Thus secured there is no chance for moving backwards or forwards or throwing the head from side to side. A block or a carpenter's saw-bench about twenty inches high for the nose to rest upon materially assists the operator.

The assistant then places himself with his right side against the neck of the animal, his right knee thrown forward under the jaw, the right hand grasping the horn next to him, while his left hand firmly holds the rope under the nose.

The operator stands facing the animal with his right leg resting firmly against the side of the nose. Then grasping the horn next to him with one hand, he places his saw in position and with a few quick strokes severs it from the head. The assistant then loosens his hold on the horn and throwing his arm over the neck grasps the ear, while the operator removes the second horn in the same manner as the first.

The animal is then liberated and seldom requires any further attention, nature quickly repairing the injury, and if properly done there is seldom any scar left to show that there had ever been any horn.

Should excessive bleeding follow it may be soon stopped by holding a handful of flour on the wound.

No dressing or covering of any kind is necessary unless the animal should happen to injure itself.

The saw I used was a carpenter's cut off, number eleven, filed very sharp, with plenty of bevel without set, and is well oiled before operating on each animal.

In cutting the operator should always remove a quarter of an inch or more of the hair and skin with the horn. If any of the outer shell of the horn is left it will grow and form an unsightly stub. This is more likely to happen with young cattle than old ones.

The most desirable season to dehorn is October and November.

The time required for securing the animal and removing the horns, with the appliances above mentioned, should not occupy more than one or two minutes, while the actual cutting should not require more than ten to twenty seconds to remove both horns, by a skilful operator.

There can be no excuse for the work being done in a bungling or unskilful manner, the appliances being inexpensive and easily obtained.

Mr. GLENDINNING.—Now, have you seen any bad results from the operation? A. No, there have been no bad results, with the exception of two cases where there was a discharge of pus.

Q. What is your view with regard to the discharge of matter from the wound after the operation? A. In about 10 per cent. there is a discharge, but it is perfectly odorless and is not pus. It is what I would call a mucous discharge. It is like a colorless jelly. In the two cases I mentioned there was a discharge of pus, and it did not require much ability to tell that it was pus; the discharge had an offensive odor. Both Dr. Brady and Dr. O'Neil made a close investigation. They had more experience in dehorning than most vets. and they both gave the opinion that it was not pus but a mucous discharge.

Mr. KELSO.—After the operation have you known many cattle to bellow or make a noise? A. Only about half a dozen.

Mr. GIBSON.—Are the cattle that were dehorned before the Commission doing well? A. Yes, they are healing nicely. I saw the bull this morning and he was all right.

Mr. KELSO.—Is there not a danger after the operation of the animal striking its head against the sides of the stanchion thus causing pain and perhaps a second hemorrhage? A. They generally know their heads are tender and go carefully. There is not so much danger. Of course where the chains are used this danger would be done away with.

Q. Would you recommend that regulations should be adopted only allowing the operation to be performed at a certain season? A. Well, I would not like to see the operation performed in summer.

Q. Have you had any experience in disbudding? A. I would rather dehorn two old cows than operate upon a calf with the gouge. I have not tried the caustic fluid.

Q. What would you say as to licensing or appointing certain men to perform the operation? A. Well, I would hardly recommend that. It is just like castration—the owners themselves will take care that it is properly done. I think, of course, that a man should be compelled to have the proper appliances.

Q. Would you say that the practice ought simply to be allowed and no restrictions placed upon it? A. Well, that is hard to say. I would not like to see it done unskilfully.

Mr. GLENDINNING.—You think the matter will regulate itself the same as castration? A. Yes, I think that if the government decided that the operation must be performed skilfully by proper parties and with proper instruments, that would be sufficient. I think that any man of kindly feeling and good nerve could do this work without difficulty.

LEVI FLETCHER, farmer, Lambeth, Middlesex county, sworn, said: I keep six or seven head of cattle. I have not practised dehorning, but I have seen it done. I think for men like Mr. York, who are making their money out of cows, dehorning is an advantage in the feeding and caring for them.

Q. You have heard Mr. Elliott's evidence, do you agree with him? A. Yes.

Q. Do you regard it as a humane operation? A. Yes, it prevents cattle doing harm to each other. Have seen a good deal of injury done by hooking. I was opposed to the practice at first, as I thought it a cruel thing, but when I saw the operation I could not see that there were signs of severe suffering.

JOHN A. DICEY, farmer, White Oak, Middlesex county, sworn, said: I keep 15 head of cattle. I have not performed the operation but I have seen it performed. My impression is that it improves the herd.

Q. Do you agree generally with the evidence of Mr. Elliott and the last witness? A. Yes, I think dehorning is better for the herds, and that the operation is a humane one. You cannot let horses out among cattle that have their horns on. The practice has been carried on in our neighborhood. At first they were afraid of the law but the cattle were so much better without horns they decided to risk the consequences of taking them off. I don't think the suffering is so great in dehorning as when the animals knock their horns off, or hurt themselves in fighting.

SAMUEL CHARLES MILLSON, farmer, Glenworth, Middlesex county, sworn, said : I keep 32 cows at present. I had the whole herd dehorned except three muleys. The operation was performed three weeks ago last Saturday, and they are all doing well. I did not see any great pain in the operation and since then the only time I noticed pain was when one of the animals attempted to hook another. I think the operation is a humane one—that the benefits are commensurate with the pain inflicted. I agree with the last three witnesses.

MR. GLENDINNING.—Was there any discharge from your cattle? A. Well, five or six have discharged more or less. One or two might be discharging yet, but there is nothing offensive about it.

Q. Did you notice much pain? A. When we had dehorned about ten of the herd, I went into the yard to see how they were getting along. They were walking about looking amused at each other, as if they could not understand how it was that the horns were off. They didn't seem to be suffering any pain as far as I could see.

Q. Who performed the operation for you? A. I did it myself. I had never done it before and had not seen it done. I saw Mr. York and got some instructions from him.

Q. What season do you think is the best? A. Early in the spring would do—any time but fly season. I think most farmers have sympathy enough for their cattle to have the operation done well. Of course there are careless men in every business, but the great thing is to have proper appliances.

WILLIAM S. YORK, farmer, Dorchester, sworn, said : I keep from fifteen to twenty-five head of cattle. I have not had the operation performed, but I am in favor of it. I have noticed my father's (William York) cattle very closely and my belief is that they have done better and look better than they ever did before the horns were off. I don't think they get any better treatment, but the improvement is owing to increased quietness. I have heard the evidence of Messrs. Elliott, Fletcher and Diey and agree with them.

HIRAM DICY, White Oak, Middlesex county, being sworn, said : I am engaged in farming and keep twenty-four head of cattle. I have not seen the operation of dehorning nor have I seen animals that were dehorned, but I think it a desirable thing in view of the injury done through hooking.

The Commission then adjourned at 5.30 to resume at 10 o'clock the following morning.

LONDON, JUNE 2nd.

The Commission resumed the hearing of evidence in the Court House, London, on Thursday, June 2nd, at 10 o'clock. Hon. Charles Drury presided.

BENJAMIN COOK, farmer, Avon P.O., Middlesex county, was recalled. He exhibited two pair of horns, illustrating methods for preventing vicious animals from doing harm. One pair was fitted with brass knobs, while the other pair had a wooden bar arrangement, commonly used among farmers. These, he claimed, were sufficient to meet all ordinary requirements. He also exhibited a wooden appliance made in the shape of a "T" for placing upon the head of a vicious bull, being fastened by an iron bolt passing through the tip of each horn.

In evidence, Mr. Cook said : I think there is great difficulty in telling the breed, as well as the age, when the horns are off. I would have no objection to dehorning if the animal could not be controlled in any other way, but before I would feel justified in encouraging this custom I would have the animal slaughtered. What I object to is taking the horns off an entire herd of thirty or forty animals, whether they are vicious or not, making the innocent suffer with the guilty. Mr. Cook then read a statement, of which the substance has been already given.

At the request of Mr. Edward York the following affidavit from Mr. Gracey was read and filed (alluded to in Mr. Cook's former evidence, on page 93) :

STATUTORY DECLARATION.

Dominion of Canada, }
County of Elgin, } In the matter of Dehorning Cattle.
To wit :

I, Daniel Gracey, of the township of Malahide, county of Elgin, farmer, do solemnly declare that I had five head of cattle dehorned and witnessed the operation. I do not think it can be considered cruel to dehorn. I saw no bad results from said dehorning. My cattle thrived and did better afterwards. There was no matter or pus formed at the roots of the horns. The horns dried up in two or three days. Will have more dehorned if the law allows me to do so. I had at that time no other cattle that could be dehorned. I believe it to be an advantage to the owners of cattle to have them dehorned.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the Act respecting extra-judicial oaths.

Declared before me at Springfield, in the county
of Elgin, this 28th day of May, A.D. }
1892. J. B. LUCAS, } DANIEL GRACEY.
A Commissioner, etc. }

THEOPHILUS V. HUTCHINSON, M. D., being sworn, gave evidence as follows: I am the Medical Health Officer for the city of London, and gave evidence in the case of the Queen v. York, for cruelty to animals. I have the general supervision of all sanitary matters and as the sale of milk comes under my notice I visit and inspect about ninety dairies twice a year.

Q. Have you formed an opinion as to the necessity or desirability of dehorning? A. I think in some cases it is necessary, but in general I think it is not. I would consider it a cruel operation. While some good might result the proportion is not such as to justify the practice. I would look at the question from the public good, and not from the individual benefit standpoint. Judging from the anatomy of the part I would say that the horn could not be taken off without causing considerable pain. All bones are covered with an inside and outside periosteum. This is not sensitive, but the membrane is. The hard flinty part has very few nerves of feeling, but the moment you strike the opening you sever the membrane and the supply of nerves that run up the horn, and that is highly sensitive. Wherever there is a blood vessel there is a sensory nerve accompanying it. I think there would be more pain and a greater rise in the temperature where the horn is accidentally knocked off, than where it is properly taken off.

Q. There are certain indications of pain that would be noticeable at once? A. Yes, such as shaking the head, blowing the nose, sometimes holding the head high; at other times running around or standing in a corner; a rise in temperature and so on. You could tell there was pain, but not the degree.

Q. Suppose that in five and a half seconds the horn was severed completely; that the temperature was taken before and two hours after the operation without much difference being indicated, and that there were none of the usual signs of pain, what would you conclude? A. Well, it would take longer than two hours for the temperature to rise—probably until inflammation set in.

Q. Is the rise in temperature due to inflammatory action? A. Yes, but there are cases, such as fevers, where there would be a rise without inflammatory action.

Q. So far as you have observed you would not expect a cow that had its horns knocked off to act in the way described? A. No.

Q. Is it a fact, that where there is vitality left nature immediately begins to repair the damage? A. Always.

Q. Suppose you visited a herd of cows a week after dehorning and found there was a discharge, would you immediately conclude that that was pus? A. No. Pus is the product of inflammatory action.

Q. Might there be a discharge without inflammatory action? A. The first process is a discharge of limpus or thin mucous. This closes over the wound and subsequently becomes a tissue of the body—that is, providing the animal is in good health. If the animal is in bad health then the process of repair would degenerate into pus, and the discharge would be inflammatory. An experienced man can readily distinguish between mucous and pus.

Q. Now, witnesses say they have observed a discharge of matter and many have come to the conclusion that it was a discharge of pus, indicating inflammatory action? A. A healthy discharge for the covering up of the wound would not ordinarily be noticed. The discharge that would attract attention would probably be pus.

Q. Suppose there was no odor? A. Well, from some pus there is no odor.

Q. Would you expect a lessened flow of milk after the operation? A. Not much for a day or two.

Q. Suppose the operation were performed at noon, would there be a less flow of milk that evening? A. In the case of accidents I have not noticed much difference until the inflammatory process set in.

Q. Would you expect a falling off in the milk at night if there had been suffering for several hours before? A. Yes. I would think there would be some falling off.

Q. You would not look for much inflammation for say twenty-four hours after the operation, but suppose there was no falling off in the milk yield after that time? A. I think there might be pain without a lessening in the flow of milk, but if there was a rise in the temperature I think there would be a falling off.

Q. Suppose in your capacity as health officer, you found that an animal was discharging pus, would you find fault with the milk? A. Yes. Some of the pus would get into the stomach through being licked off the nose and I would decidedly stop the supply of milk while that was going on.

Q. Have you ever had anything to do with cattle? A. Yes. I was brought up on a farm.

Q. You have not seen any animals dehorned? A. No.

Q. Have you seen much inconvenience from horns? A. Horns are an inconvenience of course, but taking it altogether I think that the inconvenience does not counterbalance the cruelty of taking the horns off.

Q. Would you agree that if the good is in proportion to the pain inflicted, the practice would be justifiable? A. Well, if it saved life I think it might be justifiable, but not for financial advantage. I have been practising for twenty years and have not been called upon to attend any suffering from hooking.

Mr. GIBSON: Do we understand you to say that the cavity would be larger at the base than higher up? A. Yes, then there is the danger that in cutting close to the head pus may get into the arteries and in that way into the system.

Q. If there is much bleeding would you regard that as a sign of pain? A. Not always; a man might have his nose bleed and yet not suffer. I think there are facilities for fraud when the horns are taken off. Even a butcher might be deceived.

Q. But what about the teeth? A. Without the horns I think it would be difficult if not impossible to tell the age within two or three years.

Mr. DRURY: You say then that this matter should be decided upon the gain to the public? A. Yes. I think that a money consideration should not be brought into the case.

Q. What about castration and cutting off the tails? A. There is no comparison between cutting off sheep's tails and cutting off horns. Then I think there is room for great improvement in the method of castrating. Animals ought to be rendered insensible before the operation. About 25c. worth of chloroform used on a horse would deaden all pain.

LORENZO STEVENS, farmer and bailiff, London township, sworn, gave evidence as follows: I have had to do with cattle nearly all my life, and I have sixteen head at present. I have not dehorned any cattle and I am not in favor of the practice. I have used brass knobs and found them to work all right. If I found an animal still continued vicious I might be in favor of taking the horns off. I like the look of the horns and I would not like to see them all taken off. I think it must be a very painful operation.

JAMES DAY, farmer, township of North Oxford, sworn, said: I have about 30 years' experience with cattle, and have 22 head at present. I have not dehorned my cattle and don't intend to.

Q. You gave evidence in the recent prosecution? A. Yes.

Q. Has anything occurred to make you change your opinion since then? A. Only to make me a little more sure that dehorning is wrong. There has been a great deal of talk about dehorned cattle going up to the drinking trough so quietly. Now I have seen four or five horned cattle drink together out of a cauldron kettle. I have seen a little trouble through one or two keeping the others away, but I believe that if animals are used kindly there won't be so much trouble. I don't go as far as some who say that dehorning is a terrible piece of cruelty. It is done quick, of course. I dehorned one cow myself since the trial to see the effect of it. Here's my idea of this thing, it leaves room for defrauding the public as to the age. I honestly can't see any necessity for it. Even with the vicious ones we don't need to go so far. Cutting the tips is a sure thing. I have been a horse doctor for about 21 years, though I have not graduated from any college. I have been looking at some of these dehorned cattle and I saw no bad results any more than this, they seemed to be too docile, always moping and seem to have no life; I would call them idiots. In my experience I have only been called upon to attend one case where a horse was injured from goring and in that case it was the stableman that should have been dehorned for he had been chasing the cow with a pitchfork. I put a ring and chain on a

vicious bull once, and he was as docile as could be desired after that. I believe that the hired man causes more vicious animals than anything else. Lots of people don't handle their cattle right.

Q. How did the cow that you dehorned do? A. It healed up nicely. She was vicious before but is not now; in fact she is the other way.

Q. Have you ever heard of cows that were dehorned and that suffered excessively? A. No, I can't say that I have.

Q. Do you know of any farmer who has dehorned his cattle and is now dissatisfied? A. No, they are all satisfied as far as I know.

HENRY GOLDFING, farmer, Thamesford, sworn, said: I am engaged in general farming, and keep from 30 to 40 head for beefing chiefly. I am opposed to dehorning as I think the cattle are all right without it, except in special cases.

Q. Have you had cattle or other animals injured by the horns? A. No; well I had some sheep injured once. Of course cattle dehorned cannot hurt each other.

Q. What are your objections to cutting off the horns? A. I think it is cruelty, and then the age is judged by the horns.

Q. But if there were no horns might buyers not find other means of judging as to the age? A. I suppose they might.

Q. Now, you think it is painful; have you seen the operation? A. No, I have only seen two cows that had been dehorned. I think that to tip the horns of vicious animals would be sufficient.

JAMES H. WILSON, veterinary surgeon, London, sworn, testified as follows: I am a graduate of the Ontario Veterinary College, and have been practising in London for the past 24 years. My practice is among the farmers as well as in town. So far as I can see dehorning is not a necessity. I have not been called upon much professionally for injuries done by horns, only one cow and two or three cases of horses. It may be, as dairymen say, that the animals are quieter after dehorning, but I think this is because of the tenderness of the head after the operation. I lived on a farm until I was 26 and we always found tipping to be sufficient. I should say the reason why dehorned animals are so quiet is that they are afraid to come in contact with each other. I would not say there was constant suffering unless when the dehorned part comes in contact with a hard substance.

Q. Now, if there was a measure of good flowing from this practice would you consider it justifiable? A. It all depends on the measure of good. I think the practice could only be justified if there was a great amount of good.

Q. Have you ever been called upon in your practice to take horns off? A. No, but I have attended several that had their horns broken.

Q. There were signs of pain? A. Yes, such as shaking the head, sneezing, switching the tail and stamping the feet.

Q. Suppose a cow gets her horn broken at six in the morning say, would there be a rise of temperature at 12 o'clock? A. Yes, about three hours after, and there would be a quickening of the pulse.

Q. If you could get a quickened pulse and a higher temperature what effect would that have on the milk? A. The milk would not be as good and there might not be as much.

Q. You have never seen this operation performed? A. No, I don't want to see it.

Q. Why? A. Because I think it is an outrage upon the animal creation. The membrane lining of the horn is highly sensitive, and the horn is supplied with blood vessels and nerves; these accompany each other.

Q. You agree that nature immediately begins to repair the wound, and that there is a discharge of mucous? A. Or of pus, sometimes we have healing by first intention, but I fancy that in many of these cases it would not heal in that way. Pus would be discharged and it would run down over the wound.

Q. Would you say that where it is stated there was a discharge of something that that discharge was pus? A. No, I could not tell that.

Q. How would you recognise the difference? A. Pus is a little thicker, and there is generally a little odor. The wound can only heal through a certain inflammatory process.

Q. Then suppose the curative process is brought about in this way is there necessarily pain? A. Yes, there would be some.

Q. What amount of suffering is involved in the healing over of the aperture? A. We could not measure it well, but there would be considerable. I don't think there is a necessity for the dehorning of cattle, or that the benefits are adequate. If the animal were dangerous to man and tipping were not sufficient then it might be justified. I can't see any reason why a quiet animal should have its horns taken off.

CALEB H. MILLSON, farmer, White Oak, sworn said: I keep at present nine head of cattle and have kept from thirty to forty with my brother. I cut the tips off the horns of one of my

cattle and it didn't do as much good as I thought it would. I am in favor of dehorning. My brother had his herd dehorned and I was favorably impressed by the results.

WILLIAM H. YORK, farmer, Dorchester, sworn said: I am engaged in mixed farming, and keep about thirty head or so of cattle.

Q. You were prosecuted for dehorning? A. Yes, it was me that made all the trouble.

Q. What led you to take the horns off? A. I had a boy hooked by a bull, and we decided to take its horns off. It was in cold weather. He did well, but there was considerable discharge—more than there would be if I had taken more care of him. I have dehorned bulls for the past five years or so. Then I noticed that Kinney's cattle did well without the horns, and my brother Edward went into it, and said that I would not be sorry if I went into it. When Mr. Nigh was hauled up I asked the lawyer to come down and see the cattle, but he wouldn't do it. The Crown Attorney also refused. Tamlin came down and said he was sent by the Humane Society. I told him I thought it was a humane act to take off the horns. The second time he came he brought Allan, the constable, with him. The cattle had been drinking and perhaps after the cold water they were shaking themselves a little. There was one animal that had knocked the scab off and was discharging. He tried to make out that the critter was tender and flinched. Then they asked me about the one I lost, and I told them she bled quite a bit. About three weeks after dehorning I noticed that this cow was bleeding at the horn. I was in a hurry, and after bandaging it up I left her. When I came back she was past doing anything for. It was about thirty-six hours before she died that I left her. I supposed that she had hurt her horn, and I think she may have had something else the matter with her as my man told me that the carcass smelled considerable after the hide was taken off.

Q. Are you pleased with the result as far as you are concerned? A. Yes. I am quite satisfied my cattle won't suffer in any comparison with horned cattle. It makes them quielet, but my cattle are not fools as some of the witnesses try to make out. They take a rap at each other occasionally, but find they can't hurt, and let it alone. We admit there is some suffering, but nothing in comparison with the injury and suffering the horns will do in a year. I would rather pay an annual tax of \$50 than have the horns on. I'd be willing to have some regulations adopted, but I don't want to have to get a vet. to do this job. My boy saw it done and then went and did it for a neighbor, and I think he did it all right.

Q. If the operation were done in a loose and careless way with a poor saw, would you agree that the party ought to be punished? A. Yes. It should be done carefully, and with as little pain as possible. I cut off the tips of the horn once and that didn't answer. Then I cut off a little more, to the quick, and I thought that was splendid, but it was only good for a short time, until it healed up, and then the critter was able to punch and bruise. I'd rather have the cattle learn to use their horns before they are taken off. I tried the experiment of cutting out the horn in the calf and I made a bad mess of it—one horn was turned up and the other turned down. Then I tried another time searing with a hot iron, but the pain of that is worse, I think, than dehorning.

STEPHEN YORK, farmer, South Dorchester, sworn said: I have been engaged in farming for many years and keep forty-four head of cattle, for dairying chiefly. I had all my cattle dehorned on November 6th last, and am satisfied with the results. The stock has done better than ever before. I never had them come through the winter so nicely. There is not a scratch on them, and they act like a lot of sheep. I had two or three that were vicious before and they are all right now. It is wrong, I think, to dehorn a part of the herd. If it is going to be done at all the horns ought to be taken off the whole herd so as to make them equal. If only a few are dehorned they will become underlings and the others will take advantage of them. I think it was about a week after the operation that Tamlin came down to see the cows. Out of the lot there were only three that were discharging what might be called pus. It smelled a little as if it was from an old sore. In four weeks they were all right.

Q. Your brother says he would rather pay a charge of \$50 a year than be prevented from taking the horn off. What would you say about that? A. I would do the same thing. I am quite satisfied that the benefit is worth that. I have made an estimate or calculation in my own mind that I have lost about \$10 per year in bloody milk, for the last twenty years. I could not say, of course, that in every instance this was caused by horns, but the majority of it was. Then some of the vets. say they are not called in to attend cases of injuries from horns. We don't call in anybody. We fix them up ourselves or pass them over. We couldn't be sending for a vet. every time. I was opposed to dehorning until I saw how nicely my brother Edward's herd was getting along. When I saw the operation I was surprised that the cattle didn't make more fuss than they did. I would prefer the fall, just past fly time, for the operation. I don't think it requires a professional man to do this work. Self-interest will prevent a farmer from injuring his stock.

LONDON, FRIDAY, JUNE 3rd.

The Commission resumed its investigation in the Court House at 10 o'clock on Friday morning, June 3rd.

Mr. EDWARD YORK submitted a statement setting forth that for the defence in the case of The Queen v. York, the sum of \$237 had been expended, in addition to the loss of time and travelling expenses of thirty-three witnesses and others interested.

Mr. CHARLES HUTCHINSON, Crown Attorney for the County of Middlesex, being sworn, submitted a statement of the disbursement of \$114 received from the Ontario Government for witnesses' and magistrates' fees. He also put in the following statement of facts :

RE DISHORNING COMMISSION.

THE STATEMENT OF CHARLES S. HUTCHINSON, COUNTY CROWN ATTORNEY.

"I undertook the prosecution of W. V. Nigh at the request of certain respectable and reliable persons interested in the welfare of horned domestic animals, whose names I prefer not to mention. Unfortunately before the case came to trial, I met with an accident which prevented my attending to the matter myself, and although it was placed in competent hands and I am sure that everything was done that could be reasonably expected, the case for some reason or other miscarried and was dismissed.

"Some time afterwards, the prosecution against William York and others was brought on under similar influences—as an infringement of the Dominion Act relating to cruelty to animals—in dehorning somewhere about thirty milch cows, thus cruelly and unnecessarily mutilating the unfortunate animals. In order to make sure of the facts before commencing proceedings, I induced C. S. Tamlin, V.S., and Detective Allen to visit the defendant, Wm. York's farm and inspect the dehorned cows, which they did accordingly with the results stated in their evidence before the magistrates. Feeling, therefore, sure of my ground, I caused the three defendants, Wm. York, Edward York, and W.A. Elliott to be summoned to answer to said charge of unnecessary cruelty to these thirty cows by cutting off their horns, and the case therefore came for trial before Justices Smyth and Lacey in this shape, with the result that all three defendants were convicted and fined \$50 and costs. They appealed in the ordinary way to the next sessions, which will open on Monday next, when the case would have come before the proper legal tribunal in the manner provided by the Dominion criminal law, if proceedings had not been stayed by the order of the Attorney-General of Ontario, previous to the appointing of the Commission for inquiring into the propriety, or otherwise, of the practice of dishorning.

"I wish here to call the attention of the Commission to the fact that the prosecution in question was limited to the acts of cruelty alleged to have been committed upon these particular thirty cows, and did not, therefore, involve the question whether or not dishorning might not in certain cases be permissible, and it was to make this fact clear that at the second sittings of the magisterial court, I defined in precise paragraphs, the questions intended for the consideration of the Bench in relation to the acts of cruelty charged.

"I made an appeal to the public for aid which was kindly responded to by many of our leading citizens and by outside humane societies, notably of Toronto, Simcoe and Niagara Falls, but unhappily not by our local society, although I attended a meeting of the society and urged as forcibly as I knew how the claims of the domestic cow, to whom we all are so much indebted, to be protected from cruel treatment by cruel, greedy men, and offered my services gratuitously to conduct whatever proceedings might be found necessary. My appeal to the London Humane Society having so completely failed, I had no alternative but to proceed and do my best under somewhat discouraging circumstances.

"In my appeal I stated the grounds on which I relied for supporting the prosecution, as fully as I could then or can now. I therefore beg to refer the Commission to that appeal of which I ask permission to present a copy.

"I will merely add that the text of my appeal is to be found in the second paragraph, wherein I state, 'that a farmer when accused lately of cruelty to his cows by dishorning a large number, replied that he had the right to do what he liked with his own property, irrespective of the consequences.'

"These words I and others heard uttered by Mr. Wm. York. "And it is against this principle I contend in behalf of our fellow creatures, the milch cows, who have personal interests as sacred as our own and towards whom no cruelty should be permitted for the sake of mere personal gain."

CHARLES HUTCHINSON,

London, June 3, 1892.

County Crown-Attorney.

Mr. DRURY.—I see Mr. Hutchinson, that in the indictment of the recent case you speak of the advantage to the animals themselves and to the public generally; Lord Coleridge, I believe, lays it down that there must be proportion of gain to the suffering. We would like to have your views on this point. You say for cruelly and unnecessarily torturing thirty cows—now one authority says it may be a question as to the manner in which the operation is performed? A. I limit everything to these particular cows—nothing was done for these animals after the operation.

Q. In one case it might be well done and in another it might not? A. Assuming that in any one particular case it was proved that the cow was a particularly vicious one and there was no other way in which it could be subdued—still the obligation would rest upon the owner to

have the operation properly performed. I don't admit the right of dehorning, but even admitting that it is necessary in some cases—and I don't presume to say that it might not be—it should be done in a proper manner. It is like everything else—you might drive a horse along the road in such a way as to be guilty of cruelty to the animal.

Q. That is—what is lawful to be done, if properly done is right, but if improperly done is wrong? A. Yes.

Q. So that if you were sitting on the bench trying two cases—if in one case the operation was improperly done you would convict, and if in the other it was properly done you would not be likely to convict? A. Yes.

Q. There is the question of necessity and then the way in which it is done? A. There was no evidence to show that there was necessity to cut off the horns of this herd. There is no evidence to show that there was a single vicious cow in the herd.

Q. Now, following the judgment in the English case, and coming to the question of justification—it was shown that the animals were increased in value from £1 to £2; stress is laid on that as a justification—do you say that we must confine the advantage to the public generally and exclude the advantage and profit to the owner? A. My view is this—supposing that by cutting off the horns there was a little less care and attention needed—for instance, in driving cattle from one place to another—this could easily be provided for if proper means were taken—I would say that was not an advantage to the public generally.

Q. William and Stephen York in their evidence have stated that they would be willing to pay a yearly tax of \$50 rather than be deprived of the privilege of dehorning their cattle—now, here is a statement from a financial aspect? A. I am strongly of the opinion that that is not a justifiable cause for the operation. Take the castration of horses, there is a public necessity for that.

Q. Can you separate private interests from the public interest in dealing with a question of this kind? A. Yes, I think so—special private interests—there is the making of a little extra profit by keeping cows having their horns off, and against that there are certain disadvantages to the public that make it undesirable to authorize anything of the kind.

Q. Now, we exported last year 100,000 head of beef cattle from this Dominion. Suppose I were to go to all the breeders in this country and say—gentlemen, I can tell you something you can do that will enhance the value of your cattle \$5 per head (an increase altogether of perhaps \$500,000) would it not be a necessary result that if the owners gained that amount, there would be a great advantage to the public generally? A. I don't take that view of the case at all, and I would not like to express an opinion upon that point.

Q. Now suppose all the farmers in this county de-horned their cattle and came forward and said the results were worth \$50 per year to them, we would say that was a private gain in the first instance; then we would also say that cattle generally are made more valuable, and that by increasing the wealth of the country to that extent, the public good would be advanced? A. I see no fault with that reasoning if it is a justifiable operation.

Q. Has not that view been taken, that the practice was justifiable, because it meant an increase in the value of the animal? A. I don't view this question from a money standpoint—I exclude that altogether. What I say is this—if it is shown that milch cows could not be used for the purposes for which they are intended—that is, to give milk, as they have been doing in this county for the last seventy-five years, then I would say that there would be a justification, on the same principle as the castration of horses. It is a question of proportion, but not allowing private or individual gain to come into account. It seems to me that the question of private advantage is not, properly, to be considered. There is not a necessity for the operation. It ought to be shown that you could not use the cows safely, and then there might be some argument. If you can't curb and subdue cattle by a little trouble there might be justification. Then I say that even a cow has certain rights that should be respected.

Q. You say it is more reasonable that the owner should be put to expense and extra trouble rather than that the horns should be taken off? A. Yes.

Mr. MACPHERSON.—Would that not apply also to castration? A. No, because we know we can use these cows without dehorning, and it is claimed that we can't use horses in their natural state.

Q. I think you admitted that in some cases vicious animals might be dehorned? A. What I said was if they can't be controlled in any other way.

Mr. GLENDINNING.—Have you seen the operation performed? A. No, I have not, and I would be very sorry to look at it. I would rather take the opinion of experienced men. I think I can use my own judgment to understand that it is impossible to cut off the horns without causing great pain. I strongly object to the sentiment that William York expressed in this very room at the time of the trial, that a man can do as he likes with his own.

Mr. DRURY.—Now, in the Norfolk case, twelve or thirteen veterinarians practically said they had not seen the operation, but they judged from a study of anatomy that there must be pain. Others, practical men, say, well no matter about anatomy, we have seen the operation

and don't see the evidences of pain. Don't you agree that pain will give indications of its presence? A. Well, under certain circumstances, I can understand an animal being so completely intimidated that she remains in a sort of dazed condition.

Q. For the purpose of showing the interest involved could you give us an idea of the costs in the recent trial? A. I gave my services gratuitously, then there was \$114 paid in witness fees, and another \$100 was expended, chiefly contributed by private parties.

Q. Would you say that this practice might be a matter of permission under proper regulations? A. I would say that if the practice were being permitted, it would be most desirable that there should be certain regulations as to how it should be done, and under what circumstances; but of course I say this without committing myself that it is something that ought to be permitted.

HUMANE SOCIETY DEPUTATION.

The following gentlemen were then introduced by Mr. Kelso as a deputation from the London Humane Society: The president, Mr. Perrin, Rev. Dean Innes, Rev. Canon Davis and Mr. Talbot MacBeth.

Rev. Dean INNES said: We are not here, gentlemen, to give evidence or to seek to unduly influence any decision that may be arrived at. We feel quite certain that your decision will be influenced by the evidence submitted to you and not available to us, and we are sure that you will give a decision based upon the best interests of humanity. We desire, of course, that if this practice is permitted it should be surrounded with such conditions that it will only be practised under proper regulations, by persons properly qualified and with instruments suited for the purpose. If it must be done there should be such safeguards as will render it as little painful to the animals as possible.

Mr. DRURY.—Do you suggest that the operation ought to be performed by a professional man? A. The idea of our society is, I think, that if performed, it ought to be by parties properly qualified.

Mr. DRURY.—We have enquired of the largely-interested parties in this case as to whether they themselves would object to certain restrictions, and with one exception all have said that they would have no objection. They say, however, we would object to be bound to secure the services of a professional man, but if a statute were passed it might be made plain that the operation should be performed by a person capable of doing it properly and surrounded by safeguards calculated to prevent needless pain.

Rev. Dean INNES.—I think that would embody the views of the Humane Society. In many instances it might be impossible to obtain the services of a regular practitioner or veterinary surgeon, but if dehorning is decided to be desirable and necessary in the interests of the farmer, as well as for the safety of the cattle, it ought to be performed in such a way as will not inflict unnecessary pain.

Rev. Canon DAVIS.—Gentlemen, we are thankful for the opportunity of expressing our views, though we may differ of course on this question. I am afraid that if it is left in that way everyone and anyone will think himself capable of performing the operation. We know that in regard to man, it is a medical practitioner, authorized by law, who amputates a limb. We believe there must be pain in taking off a horn, as there would be in taking off a finger, and it does seem to me that the veterinary surgeon, who understands the entire anatomy would be the most capable man. I have seen cattle a good deal in the country, and I have observed great pain when a horn is accidentally knocked off. I am decidedly opposed to the idea of dehorning, but if it should be necessary to have it done, we desire to point out, that although God has committed the dumb animals to man for his use, it is not his right to inflict unnecessary pain. Therefore, we consider that if the practice is permitted, it should be done as carefully and with as little suffering as possible. I desire to add also, that the reason why our Humane Society did not back up Mr. Hutchinson, in prosecuting the recent case, was because we were in our infancy, we had no experience in such matters and we had no money in the treasury. It was not, I assure you, through any lack of sympathy with him in the stand he took.

Mr. PERRIN.—I have nothing further to add, gentlemen. I thank you on behalf of our Society for the kind hearing you have given us.

Mr. MACBETH.—There is one point I would like to speak of, as to the possibility of this operation being performed with less pain during the infancy of the animal. As a member of the Humane Society, I think I might ask that the Commission give due consideration to this feature of the question.

On behalf of the Commission, the chairman promised a careful consideration of the points raised, and the deputation withdrew.

It was then decided to adjourn until Tuesday, June 14th, at 2.30 p. m., when the meeting will be resumed in the Rossin House, Toronto.

The following witnesses were requested to appear before the Commission at London, to give evidence, but they failed to attend :

Jonathon Dagroat, Avon.
David Longfield, Crompton.
Joseph Morris, Crompton.
Charles Choate, Putman.
John Johnson, Avon.

William Joliffe, Avon.
Alex. Crawford, Avon.
William Stirton, Brownsville.
Murray Smith, Avon.

TORONTO, JUNE 14th.

The Commission held a four-days session at Toronto, from June 14-17, and received the following evidence :

Dr. BERTRAM SPENCER, sworn, said : I am a graduate of the University of Toronto, and a member of the College of Surgeons, England. I have been practising in Toronto for the past twelve years ; am a member of the active staff of the Toronto General Hospital, and a lecturer at Trinity Medical College. I am aware of the objects for which this Commission was appointed. I have studied the anatomy of the horn, and I have had considerable experience also in operations upon human subjects.

Mr. DRURY.—What are your general impressions as to dehorning ? A. Without having seen the operation, and without being a sentimentalist at all, my opinion is that it would be an exceedingly painful operation to the animal. I believe that animals have not as highly developed nervous organizations as we have, but I know from what I have seen of cattle that if you strike them on the horn they flinch and draw back ; from that I infer that the horn is very sensitive, and I know that the nerve supply of the horn is very plentiful. I have never seen the operation, but I have seen the horn knocked off, and there are unmistakable signs of pain then.

Q. Would you expect an increase in the temperature if there is a great amount of pain ?
A. Not necessarily ; only where there is inflammation.

Q. Would pain be indicated by the pulse ? A. Yes, that would get weak and rapid.

Q. Now, if you had witnessed the operation, each horn being taken off in about five and a half seconds, and none of the usual indications of suffering, what would you say as to the duration of pain ? A. It would be like pulling a tooth—a sharp pain during the operation, and afterwards no great pain. I think the pain afterwards would be if inflammation set in.

Q. Might there be a discharge from the opening that would not be pus ? A. Yes, there might be a mucous discharge, the membrane secretes mucous, and this might be increased, but that could be seen at once under the microscope. If there were no pus there would be no inflammation.

Q. Then you say that if the operation is done in about five and a half seconds, the pain would be confined to that time ? A. Yes, while the nerves were being severed, and if there were no signs of inflammation afterwards. Where pus forms I would expect pain.

Q. What would be the effect of the atmosphere upon the open cavity ? A. In cold or very hot weather, inflammation would be more likely than if it were done in the middle seasons. If the opening were covered over to exclude the air that might be better also.

Q. What is your opinion as to the rights of man over these domestic animals ? A. I think that when the Almighty gave us these animals, He meant us to inflict a certain amount of pain, but I believe that any pain inflicted should be necessary pain, and done with as tender a hand as possible.

Q. What would you say was necessary pain ? A. If you were going to benefit mankind, such as by the castration of animals, then I think no one can say it is not a justifiable operation.

Q. Do you agree that there must be a proportion between the amount of good and the amount of pain inflicted ? A. Yes, I think that is perfectly sound.

Q. Now, if it were shown that the value of these animals would be increased, say \$3. per head, would that be a justification ? A. I don't think so. If I had a herd of cattle I certainly would not cut off the horns for the sake of making \$300.

Q. We have the evidence of the lessee of the cattle market. I think he said he had been there ten years, and that from 75,000 to 100,000 cattle pass through there every year. He gave as his opinion that not less than ten per cent. of these cattle were injured to a greater or less extent by the horns, and also that in his opinion there was a larger amount of suffering involved by reason of goring, than there would be pain if the animals were all dehorned. Suppose a large amount of pain could be saved to the animal themselves, would that be a justification ? A. I have not seen much damage done—one animal to the other. I can hardly credit the statement that ten per cent. would be injured. Of course, if one animal killed another, I think it might be dehorned.

Q. Mr. York said that he would be willing to pay fifty dollars per year for the right to dehorn, you don't think that should be considered in settling this question? A. No, his views are naturally one-sided, as he was brought up for doing this. If I could see that the amount of pain inflicted by animals upon each other, would equal the amount of pain of the operation, then I might modify my views. It seems hard to punish the innocent with the guilty and remove the horns of thirty or forty because one or two are vicious.

Q. Do you consider that castration and spaying are justifiable? A. Yes.

Q. Why is spaying justifiable? A. Well, if you are feeding these animals you lose a certain amount of profit.

Q. But you say that an increased money value should not be considered? A. Well, spaying is rarely done.

Q. Now, in the case of spaying, if it improved the meat would you consider that justifiable? A. No.

Q. How about docking lambs' tails? A. That is different from dehorning. The tail is cartilage; you can cut off a pup's tail without his hardly feeling it. I think the castration of lambs and cutting tails is justifiable, and the pain isn't to be compared to dehorning.

Q. Is it not true that nature begins to heal at once where there is an injury? A. Yes, lymph is thrown out and the part becomes sealed over gradually.

TORONTO HUMANE SOCIETY.

A deputation was then received from the Toronto Humane Society, consisting of Messrs. S. G. Wood, W. A. Sims, Mervyn MacKenzie and George Taunt.

Mr. SIMS said: Gentlemen, you have been hearing a good deal from the financial, commercial and surgical point of view, and we want to present the humane or aesthetic side, for we are afraid that in the clash of other interests the humane aspect will be left out or forgotten. We are interested in securing the humane treatment of cattle in transportation and in the stock yards, and the kind treatment of animals generally. We think that in doing this, we are advancing the best interests of the country. We are glad that the Commission has been appointed, and that it is composed of practical men like yourselves, but we want you not to lose sight of the pain inflicted on the animals. We hope you will allow pain to balance against the amount of gain by the practice. Then if the practice must be allowed, we think the operation should be performed by a skilled veterinary, with proper precautions against blow-flies and other dangers. This is neither commercial nor financial, but humane, and I am speaking now more to the heart than to the head.

Mr. DRURY.—Assuming that we find it a practice that ought to be permitted, would it not be sufficient to say that if there is unnecessary cruelty that person should be liable to prosecution, and that if it is done properly there should not be the same liability? A. Yes, I suppose so.

Mr. WOOD.—I have only to point out to the Commission that the case in England seems to show that the pain inflicted was very great. The decision against the practice was given by two gentlemen who could not be termed sentimentalists and they expressed very strong opinions as to the character of the practice.

Mr. TAUNT not being prepared, asked for an opportunity of addressing the Commission on Thursday, which was granted. The deputation then withdrew.

JOSHUA INGHAM being called and sworn, said: I reside in York township and have been engaged in the cattle business for the past thirty years. I have handled as many as 1,000 head per week. My impression from the very first has been that this dehorning business is diametrically opposed to all the interests concerned. I think it is all wrong. If we want cattle without horns we could breed them, and it would be only a matter of a year or so until we could get meat, milk and docility. Of course if they must come off right away, the most expeditious way would be to cut them off. It is a revelation to me that dehorned cattle should be more valuable. An animal that slouches along without horns is nothing like an animal with a fine noble pair of horns.

Q. Have you ever suffered loss from the horns of the cattle you have handled? A. I don't think I have suffered over \$100 loss in my experience. Sometimes they get their horns knocked off, and you can hear them bellow and show signs of great pain.

Q. Some of the witnesses claim it would not be right even if the animals were greatly increased in value. What would you say to that? A. Well, no, I don't belong to the humane society, although I believe that it pays to treat all animals kindly. I don't think from a business view there would be any gain if the horns were off. I think there would be a loss from a dealer's standpoint.

Q. If dairymen are agreed that from their standpoint there is a great advantage in having hornless cattle, do you think it would be unreasonable that they should have the right to dehorn

their stock? A. They would be justified if the pain were so slight as to make it a secondary consideration. I would favor tipping, and then cattle can be prevented doing injury by putting on brass knobbs or a beard across from horn to horn.

Q. Do you think there is a possibility of fraud as to age if the horns are off? A. Not much; if the teeth are good the cow is all right. I would judge by the teeth and the general appearance. What we want is to get better blood into our cattle; it is these old bushwhackers that make the trouble, and I would recommend that they have their horns taken off low down in the neck.

HENRY WICKSON, Toronto, sworn, said: I am a retail butcher and have handled cattle in a small way for a good many years.

Q. Have you ever seen danger from the horns in handling cattle? A. We see a good many scratches, but there are bruises from other causes than the horns. The injury to the flesh from horns is not very great. I don't think it would be any special advantage to have cattle dehorned.

Q. You don't think there is an element of danger from the horns when strange cattle are brought together? A. Not largely; doubtless they do chase each other a good deal. I have seen mixed loads, where there would be two or three without horns and these would be subjected to persecution from the others. Then a broken horn is a very painful thing. Of course I have seen cattle hook each other, but they are generally surface scratches. I have not seen enough injury done to make me consider that dehorning is desirable. Cattle often injure themselves by knocking up against gates or posts and this could not be blamed on the horns.

The Commission adjourned at 5 o'clock to meet on the following morning at 10 o'clock.

WEDNESDAY, JUNE 15th.

The Commission resumed the hearing of evidence on Wednesday morning, all the members being present.

JOHN MALLON, Toronto, sworn, said: I have been extensively engaged in the cattle trade, but at present merely buy for local consumption. At one time I bought up cattle in various parts of the province.

Q. Have you seen any damage to cattle from horns in bringing them together at the starting point? A. Yes, from the beginning to the end. I have seen the whole sides of cattle destroyed—not only the beef, but the hide. At the Western cattle market I have always seen two or three out of every carload that would bear marks of horns. There would be 10 per cent. injured, more or less, and two or three per cent. seriously damaged. This will always happen as long as there are horns."

Q. Would there be a good deal of suffering from all this? A. There must be tremendous suffering.

Q. What is your idea as to the pain of the operation? A. I think it is no more pain to take the horns off a bullock than it is to cut the ears of a dog. We had a cow once that the doctor said was suffering from the hollow horn; we cut the horns off and, although she was too far gone to recover, the operation did not seem to be a very painful one.

Q. As a buyer would you be much influenced by the horns in buying? A. I would look at the body. I would be influenced to some extent by the horns, as a bullock with good horns would look better and heavier than a similar animal without horns. We don't calculate the weight quite so heavy where the horns are off. As to the age, a butcher who understands his business can tell without looking at the horns whether its an old or young animal. The teeth are the main thing. Up to seven years old the teeth would be in good condition.

Q. Do you consider that the amount of advantage would counterbalance the infliction of pain? A. Yes, by one hundred percent. I believe that the cattle would all be better off without horns. They would be better for ordinary use, better for shipping and less dangerous. About ten years ago there was a Mr. Reeves killed here by a two-year-old steer.

Q. If you were buying would you give a preference to dehorned cattle? A. Yes, because then there would be no injury to the beef or to the hides.

Mr. GIBSON.—Would it not be better to tie up the cattle if you are suffering to the extent of ten per cent. A. Yes, it would, perhaps, if you were only handling a small lot, but as a business there is a great deal of work and trouble about it, and people would not take the time to do it.

Mr. MACPHERSON.—You believe the suffering is greater from hooking than from the operation? A. Yes, over 100 per cent. I look upon dehorning as something like pulling a couple of teeth.

MR. GLENDINNING.—Suppose there was a rake along the brisket, what would be the loss from that? A. If the animal were slaughtered and sold, it would knock half a cent a pound off.

WILLIAM BOOTH, Toronto, sworn, said: I am a wholesale butcher and handle from thirty-five to forty-five head of cattle per week. I have been in the business about twenty-five years and have had to do with thousands of cattle. I agree with what Mr. Mallon says. I have seen cattle hooked so badly that they were not worth anything.

Q. What is your estimate of the number injured from hooking? A. I hardly think there would be ten per cent. injured. There might be some marked that would not be from hooks. Sometimes cattle are injured in the car or in the yards not from horns at all.

Q. Are you in favor of the practice of dehorning? A. Yes, I think it would be a good thing. I have not seen the operation, but I have seen cattle that were dehorned. To dehorn would do away with a good deal of loss and would save considerable suffering.

SYLVESTER HALLIGAN, Toronto, sworn, said: I have been engaged in the cattle trade for the past ten or twelve years, and last year myself and partner bought 19,000 head. I have sometimes sold cattle for local consumption where the butchers would come back and want a reduction on account of damage done by the horns. In a load, two or three will often be sold at reduced rates, perhaps \$6 or \$8 less.

Q. Would you say that ten per cent. were more or less injured? A. Yes, occasionally, not always.

Q. All things considered would you be in favor of dehorning for the beefing trade? A. Yes, from my experience I would be strongly in favor of dehorning.

Q. Is there much suffering caused in the market through hooking? A. Yes, a good deal; it seems to be a rule that if there are two or three in a load that are cowardly, the others will all take a rap at them. You can often see one trying to get into a corner with the others after it.

Q. Would it be practicable to tie up the cattle? A. That is only done in the London, England, market I think. When I was over there with some cattle, I saw some dehorned stock that came from Norfolk. They were lying down like sheep. Whether it was from losing their horns young or not I don't know, but they seemed very quiet. We were trying to separate ours to keep them from goring, and it was pretty hard to see good money going fast while the others were lying quiet and contented.

Q. Did the dehorned cattle sell for more money? A. I did not have any experience of that, but I was told the others would be worth more as they would be free from bruises.

Q. Even assuming that there is a good deal of suffering in the operation, looking at the commercial view of it and the pain inflicted upon one animal by another would you think dehorning would be a desirable thing? A. Yes, I think it would be a humane thing. The animals suffer more from each other than they would from the operation.

JOHN HALLAM, Toronto, sworn, said: I have been an alderman in this city for twenty years. I was interested in the cattle trade once to the extent that I advanced money to buyers. I have also gone over the Atlantic with loads of cattle.

Q. You heard the last witness speak of the damage from horns—do you agree with him? A. I think I would in the main, but all drovers will talk that way, because horns are a direct detriment to them in some way or other. Anything they could make more money out of they would favor, even if it were cutting the legs off the cattle.

Q. Would you agree as to the inconveniences and loss suffered by the trade through horns? A. I think there is a certain amount of loss, but I believe that the suffering to the beast would be greater through cutting off the horns. I think horns were given for a purpose or they would not be on the cattle.

Q. If you have not seen the operation performed, why do you think it would be an exceedingly painful thing? A. Well, if I were to cut off my finger it would be painful, and I know there is great suffering when a horn is knocked off.

Q. Now, if you saw the operation and did not notice much outward indication of suffering, would that shake your opinion as to the amount of pain? A. Well, I am not sure. Of course if it proceeded to eat and drink and enjoy itself I would conclude that it was not suffering a great deal.

Q. You are known all over the country as one of the leading dealers in hides? A. Yes. I have been thirty-two years engaged in that line.

Q. Have you had occasion to notice the damage to hides from horns? A. Yes.

Q. Would that represent a loss from a commercial standpoint? A. Yes.

Q. To what extent? A. If a hide were sixty pounds and there were two or three bad scores it would mean a loss of perhaps fifty cents, or one cent a pound. A hide of sixty pounds

would be worth from \$2.60 to \$3, so that the loss would be one-fifth of one per cent. But there are 150 ways of damaging the hides. The drovers often use prods that pierce the hide, then there are the barbed wire fences, warbles, and so on.

DANIEL WALKER, Toronto, sworn, said : I am the caretaker of the western cattle market, and have been in that position about seven years. I have the oversight of the market and receive, yard and weigh the cattle.

Q. What number of cattle do you handle in a year? A. As near as I can remember the number last year was 100,892.

Q. Would there be an average of 80,000 per year during your seven years? A. No, not quite that many. Last market day we had sixty carloads including everything.

Q. Tell us what you think of the damage done by horns? A. Well, I have often remarked the pain of the cattle from breaking their horns. You will see a bullock droop his head, get into a corner and refuse to eat, and the horn will bleed a great deal. The drovers usually tie up the stump with tar and a rag. I have not yet seen any cattle that were dehorned.

Q. From your experience would you say that if the operation of dehorning could be performed without inflicting great pain it would be a desirable thing? A. Yes, I think so. I have seen cattle kept on the go all the time by the horns. The timid ones are chased by the others, and they seem to pick on the white bullocks. Some of these cattle are so abused by the others that they will try to jump the fences to get away.

Q. What is the size of your yards? A. The main yards are 30 x 50 feet. They are intended to hold one load. We have no yards large enough for two loads.

Q. Have you ever seen cattle killed by the horns? A. We found a bullock of Crawford's dead in one of the yards the other day with a hole punched in its side and the Inspector said it died from being hooked, though I thought it was a natural death. There has been a good deal of damage done by the cattle to each other. We often have to take an animal out of a yard and put it by itself on account of it being set on by the others.

WILLIAM KELLY, Toronto, sworn, said : I have been in the cattle business for about forty years. I am a wholesale butcher, and buy at the western market. I am in favor of dehorning cattle, because I think they would thrive better. Most of the trouble from hooking occurs in the country where drovers bring together a lot of strange animals, cows, steers and bulls. They suffer a great deal from the bruises they get, and the flesh swells up and is spoiled for beef. I have seen dehorning done in Ireland, where they would simply cut the skin around the base of the young horn and twist it off. I regard the horns as a serious inconvenience and loss, and I think that the gain in having them off would be much greater than the pain of the operation. Butchers would give \$2 more for a dehorned animal. I don't think there is any danger of farmers or butchers being deceived in the age if the horns were off. They can judge by the teeth and the general condition. I think it is justifiable to take the horns off when the animal is young, but not after it has grown four or five years old.

WILLIAM MOLE, V. S., Hamilton, sworn, said : I am a member of the Royal College of Veterinary Surgeons, London, England; I have been in the veterinary business since I was fifteen or sixteen, and graduated in 1876. I have now been two years living in this country. I am strongly opposed to the practice of dehorning cattle ; no useful end can be served by it and it is cruelty in the extreme to dehorn after six months old. If necessary at all, I think disbudding would be the best way. The only good reason that has been advanced is that without the horns they travel better.

Q. Have you read the proceedings in the Norfolk case? A. Yes. I watched that case in the interests of the Society for the prevention of cruelty to animals.

Q. Now in that case witnesses claimed that the practice increased the value of the animals from 30s. to £2. Do you think that was established? A. That was just the opinion of those men ; they were trying to prove the benefits of the operation. I don't think there is much financial advantage in the operation.

Q. Well, suppose there was an increase in value of 30s. would that be sufficient justification? A. Hardly.

Q. Is it a question of degree with you—would 60s. be sufficient? A. I don't think that any financial benefit would justify the practice, though if absolutely necessary it might be done when they are young. I look at this question from the humane aspect, and think it should only be allowed if it is necessary for the protection of man or of the animals themselves.

Q. In all these matters would you say that the commercial aspect should be dropped out? A. Yes. I would not clip dogs' ears or horses' tails.

Q. Now, I understand you wrote an article in this month's Farmer's Advocate, advising farmers to take up the practice of spaying sows? A. Yes. The animal is deprived of a natural function. I don't think it suffers to a great extent and there is a benefit to it.

Q. In that article you go on to say that the practice is desirable because it brings the product into more favor with the consumer? A. Yes.

Q. That it adds to the value? A. Yes.

Q. I don't see how you can reconcile this with your position on dehorning? A. I think it is to the advantage of the animal itself, as it does not lose so much flesh afterwards.

Q. Isn't the object of that article to show that it is to the advantage of farmers to spay? A. Yes. I think that the increased value of the animal afterwards justifies the operation.

Q. Now, is it a commercial advantage—if you exclude that then it is a question of humanity to the animal? A. Well, the humanity side is not very prominent there.

Q. Would you say that to cut off the horns in six seconds would be a more painful operation than the intricate operation performed on a sow in spaying? A. Yes.

Q. Would you say that money value is not to be considered? A. Yes.

Q. Have you ever seen the operation of dehorning? A. No, but I have seen fractured horns.

Q. As a professional man, if called upon to attend an animal suffering from injury, you would have no difficulty in telling if it was in pain? A. I think not.

Q. Your opinion is that dehorning must be a tremendous shock to the animal? A. Yes, it must be. The bony tissue itself is not of a very painful nature, but the corium is very sensitive and is largely endowed with nervous force. There are also nerves and blood vessels along the outer surface.

Q. Would the suffering be continued afterwards? A. Yes. While the wound is healing there would be pain more or less.

Q. Now if you saw the operation and could not trace any indications of suffering afterwards what would be your opinion? A. I would be inclined to think there could not be very great pain. I would expect to see certain indications of suffering.

Q. You speak of the pain afterwards—do you think there will be inflammatory action after the horn is removed? A. There must be some inflammatory action or there would be no healing. Inflammation is the process that nature has for healing or restoring the part that has become injured.

Q. Running on for a week or two weeks would you expect to have a discharge of pus? A. Yes.

Q. Would that be of a strong odor? A. If it came from pain it might be of a strong odor.

Q. The evidence of those who performed the operation was that there was a discharge, but that it was not, as far as they knew, pus—that it healed over in a few days and that bone subsequently formed. Now, would you say that there must have been suffering during that process? A. Yes, there must be suffering under the most favorable circumstances.

Q. Would you say that if this operation is to be performed there should be an after treatment? A. Yes. I think there should be an antiseptic applied.

MR. MACPHERSON.—If there was any considerable amount of suffering would you not expect a decrease in the flow of milk? A. Yes. I would expect a falling off if there was a disturbance of the nervous system.

Q. Do you know of any man who has performed this operation and is now opposed to it? A. No.

Q. You were retained professionally by the Society for the Prevention of Cruelty to Animals in the Norfolk case? A. Yes.

JOHN WILLIS, Toronto, sworn, said: I am a member of the Toronto police force, and for the past four years I have been special officer for the prevention of cruelty to animals. I have visited the cattle market twice a week, to see that no cruelty was carried on there.

Q. Have you seen much injury done by the horns? A. Yes. Sometimes quite a bit, especially when strange cattle get together. Sometimes you will hear them bellow, and there must be some pain in that case.

Q. Have you ever noticed cases of broken horn? A. Yes; it is a rare thing to see a market day without broken horns and they suffer a great deal in that way. Muleys are quieter as a rule, but I have seen some vicious ones. If this operation is allowed at all it should not be done in the warm weather and I think it should be done when the animals are young. There is a loss from hooking, but I don't think it is sufficient to warrant cutting off the horns close to the head. I have never seen the operation, but I should think it would be very painful.

EDWARD A. THOMPSON, Toronto, sworn, said: I am inspector of hides for Toronto, appointed by the Dominion Government. Most of the hides sold in Toronto go through my

office. I inspected last year nearly 50,000 pieces—hides and calf skins. They are classified as No. 1, 2 or 3. No. 1 is a perfect hide; No. 2 is damaged slightly; No. 3 is badly damaged or cut.

Q. What per cent. of damage would it be safe for you to say could be traced to horns? A. Well, I should say that out of 50,000 the number damaged by horns would be 2,500 and at 50 cents a hide the total loss would be about \$1,250.

The Commission adjourned at 5.15 to meet in the same place at 10 o'clock the following morning.

THURSDAY, JUNE 16.

CORNELIUS FLANAGAN, Toronto, sworn, said: I am engaged in buying cattle for export and have been in the business for about 20 years. One year I handled about 30,000 head altogether. Nearly 300,000 head of cattle must have passed through my hands. I have known a good many cattle to be damaged through being horned by each other, but whether it would be a general benefit to dehorn a portion and leave the horns on the remainder I could not say. If you dehorn a portion you take their weapons away, and if you mix them with horned cattle you place them at the mercy of the others.

Q. If all were dehorned would it be an advantage to exporters? A. Likely it would.

Q. What would you say is the loss caused by horns in bringing cattle to market on the cars? A. I should say about \$5 a carload, but then a good deal of that might be prevented if proper precautions were taken.

Q. Considering the advantages financially and from the humane standpoint, if the practice could be carried on without the infliction of any considerable amount of pain, do you think it would be a good thing to do? A. Yes, if you make it a universal thing. I don't think it would be a benefit unless you make everybody do it. Then cattle look larger with the horns on, and as our cattle are so'd in the lump, dehorned ones might be estimated at less than they really are. If I were buying by the weight and selling by the head as at present I would prefer horned cattle, but from the butchers' standpoint I would prefer dehorned cattle because of the freedom from bruises.

Q. Do you think a buyer would be deceived as to the age if the horns were off? A. I don't think a man who knew his business could be taken in. If you were to take any beast and put its head in a bag I could tell you about its age from its general appearance.

THOMAS A. MILNE, V.S., Toronto, sworn, said: I graduated at the Ontario Veterinary College in 1885. I have no experience in cutting off the horns of cattle, but I have seen part of the horn taken off. I would not condescend to cut the horns off even if required to do so professionally. The horn is porous and full of nerves and I consider that it is as sensitive as the pupil of the eye. The closer you cut it off, the nearer you get to the brain and the worse it would be.

Mr. GIBSON—Can you tell when an animal is suffering? A. Yes, I think so, though there are exceptions.

Q. If you were to see a cow operated upon what symptoms would you expect? A. I would expect to see hemorrhage—possibly a teacup of blood—shaking of the head, sometimes moaning, getting into a corner and standing there in quietness, pain and disgust.

Q. Now, suppose you saw none of these symptoms after the operation and noticed that the animal started to eat and went round in the usual way, would you say it was suffering great pain? A. If an animal acted as you say, with no falling off in appetite or milk yield, I would say there was either disease of the brain or that the temperament was very peculiar.

Q. Would there be a cessation of pain after the horns were off? A. Most certainly there would be a cessation of acute pain after the severance of the nerves.

Q. What degree of pain would there be in the healing process? A. I could not tell, but there must be some pain. We can only judge by the analogy of a human being. I think it is absurd to talk of cutting off the horns—man can't improve upon nature. I have heard of a few lives being lost by hooking but I do not regard that as sufficient reason for taking off the horns.

Q. Would you expect suffering from one animal chasing and hooking another? A. Yes, if you place the weaker ones with the others.

Q. Now, which would sustain the greatest amount of pain, one that is constantly chased by the others or one that is dehorned quickly with the best appliances? A. There would be pain on both sides and it would be a question of proportion. Some animals are worse than the others and I think the owner ought to remove the vicious animal.

Q. But suppose the animal can't very well be removed and it is impossible to overcome its viciousness except by dehorning? A. Then I would say that the abusive animal might be abused by dehorning.

Q. Admitting the practice to be allowable, what age do you consider would be attended with least pain? A. If I were going to do anything in that line I would try to prevent the growth of the horn medically.

WILLIAM CREALOCK, Toronto, sworn, said: I am a wholesale butcher, and at one time did a good deal of buying through the country. I have been in the business about twenty years. I am in favor of dehorning from a business standpoint because the weaker animals get bruised sometimes to the extent of \$10 a bullock. There is always one or more injured in every car-load with an average loss of \$10 to \$15. The shoulders and flanks get injured by the horns and most of the hides are so badly damaged they are put down as third class.

Q. If you were buying a carload and had a choice between horned and dehorned cattle, would you give a preference to those without horns? A. Yes, I think I would as there would not be the same bruises and scores. In buying up through the country a lot of strange cattle are brought together. You have often to wait several hours in the station yard and all the time the cattle are hooking each other. I have seen dehorned cattle at the Buffalo market and they acted pretty quiet. Muleys are not run on in the same way that a timid animal is. Of course if only part of the cattle were dehorned the others would be in danger.

THOMAS McCausland, M.D., Toronto, sworn, said: I have been a medical practitioner since 1856. I have not given special attention to the anatomy of the horn, but I should think severing it close to the head would cause great pain. Where the horn is knocked off we know that the pain is very great. This is shown by the shaking of the head, standing still or moving restlessly about and sometimes a serious falling off in the milk.

Q. Would you say that any serious disturbance in the condition of the animal would be accompanied by a falling off in the milk? A. Well, the nervous system might not interfere with the organic. I should think there might be great pain without any disturbance of the secretion of milk.

Q. Now, we are given to understand by specialists that milk is practically a product of the nervous energy, and that in selecting a cow for milking purposes it is desirable to select one of a nervous temperament, because it would be a better milker—that if a cow is chased or disturbed it interferes with the flow of milk? A. Yes, that might be, and it may change the nature of the milk, as in the case of a mother who hears some startling news—her milk afterwards has been known to give a child convulsions.

Q. Do you think that the severe pain would be confined to the operation itself? A. Yes; but there would be pain for some time. I should think there would be a danger of ulceration—that is what I would expect, though of course it might heal by first intention.

Q. What would you say justifies the infliction of pain upon an animal? A. I think we ought to treat an animal the same as we would a man. It has as much right to live as we have. A money consideration would not weigh in my mind against the infliction of pain.

Q. Now, we have the evidence of drovers, dairymen and farmers who all say that there is a great deal of suffering inflicted by animals on each other from the horns—that they would be likely to suffer more in this way than in the momentary operation of removing the horns; what would you say to that? A. I lived on a farm for seven or eight years, with twenty cattle, and I never saw a great deal of suffering. I have seen them remove the hair, but not seriously hurt each other.

Q. Putting aside the commercial aspect and comparing the pain from hooking and the pain from dehorning, which would you say was worst? A. I think the hooking could be prevented by putting knobs on.

Q. On the whole the Commission are to understand that you consider dehorning unjustifiable? A. Yes.

Q. If, however, it was found to be a practice that should be tolerated, do you think it should be surrounded with regulations that would provide for its being properly done? A. Well, I don't know that it requires any great skill if the horns have got to come off.

SAMUEL R. WICKETT, Toronto, sworn, said: My business is that of a tanner, and I have had opportunities of observing the injuries inflicted on the hides by cattle, extending over thirty years. We handle fifty hides a day, and I think there is fully 25 per cent. that show more or less damage from horns. My experience of hides from Chicago is even worse. We bought three carloads there, and we got a tremendous dose of horn hooks. I noticed, too, that the smaller hides were the worst, showing that the smaller animals must have been greatly abused.

Q. What would you give as your actual loss from damage caused by horns? A. I would say that the actual depreciation in the value of 300 hides would be about \$45, and there is a weekly loss to that extent.

Q. Now, if dehorning is an operation not involving an undue amount of pain, do you think it might be justified, looking at the loss and suffering caused by the horns? A. Yes; I think if it could be done when the cattle are young it would be desirable. I have seen dehorned cattle at the Chicago market, and there the practice seems to be growing very popular.

ALFRED O. BEARDMORE, Toronto, sworn, said: I am a member of the firm of Beardmore & Co., and we have a tannery at Acton. I can confirm all that Mr. Wickett says in regard to the injury done to the hides. Just the other day our manager sorted out 150 hides, and of these he had to throw out 30. I think the loss is from 20 to 25 per cent., and that Mr. Wickett's estimate of \$45 loss per week is about right. It is a serious loss to us, and it must mean a great deal of pain to the animal. We have noticed, also, that the marks are generally fresh, thus showing that the injuries are chiefly sustained in the cattle markets and trains.

WILLIAM LEVACK, Toronto, sworn, said: I am a wholesale butcher and cattle dealer, and have been in the business about 20 years. I slaughter and prepare the meat for retail butchers. I handle about 100 a week, or somewhere about 5,000 in the year. We have a great deal of loss from bruises and damaged hides. Very often I have to cut away the flanks and briskets altogether. The injured part swells up and the blood gathers there, making it into a jelly. I have pointed out to Inspector Awde and the humane officer cases where blood was running down the legs of cattle from injuries they gave each other, but they don't want to act in that matter at all, although they are very particular about putting an extra calf into a wagon.

Q. If you bought a dozen bullocks direct off a farm you would not expect so much damage? A. No; it is where a lot of strange cattle get together they start using their horns.

Q. Do you favor dehorning? A. Yes.

Q. Would you think there must be a good deal of suffering inflicted on the animals by each other? A. Yes; I have noticed one animal knock another into the feed box, and there are cases where they have died from this. If you go into a yard two or three that are afraid of the others will follow you around for protection—that shows that there must be a good deal of suffering. My loss from bruised meat and damaged hides is from \$1,000 to \$1,500 a year. I am satisfied myself that it is more than that, but I would not like to appear to exaggerate.

MR. GEORGE TAUNT then appeared before the Commission on behalf of the Toronto Humane Society, and urged that the practice should not be allowed for a merely financial consideration. He quoted the English case in which Lord Chief Justice Coleridge strongly denounced the practice as cruel and unjustifiable, and asked the Commissioners to bring in a finding in accord with the decision in that case.

The Commission then adjourned at 5 o'clock, to meet again at 8.30 the following morning, Friday, June 17th, for the purpose of visiting the western cattle market.

FRIDAY, JUNE 17.

The Commissioners visited the western cattle market on Friday morning, June 17, and spent two hours inspecting the various bunches of cattle occupying the yards. As the market was unusually busy—about eighty carloads of stock having been received—the Commissioners had every opportunity for judging of some of the evils complained of. In almost every yard were one or two animals that seemed to be specially marked out for attack by the herd generally, and many animals showed evidence of having been severely horned by their fellows. The bruises and cuts were in some cases so severe as to indicate that much suffering must have been caused to the animals, as stated by witnesses.

OTTAWA, THURSDAY, JULY 7, 1892.

The Commissioners met in Ottawa on Thursday, July 7th, all the members being in attendance. A visit was paid to the Dominion Experimental Farm, where fourteen steers and a bull that had been dehorned were seen. Subsequently a meeting was held in the farm office, when evidence was given by Prof. Robertson, Dairy Commissioner, and Robert W. Elliott, Herdsman.

JAMES W. ROBERTSON, sworn, said : I am Dairy Commissioner for the Dominion, and Agriculturist of the Central Experimental Farm. Previous to taking my present position I was Professor of Dairy Husbandry at the Ontario Agricultural College. I have been engaged in agricultural work for over six years past. Latterly I have been giving a good deal of attention to the feeding of stock. I am aware of the objects of the Commission, and I have been looking into the question of dehorning cattle owing to the many enquiries I received from farmers all over the country. With regard to the rights of man over the animal creation, I would say that man deprives domestic animals of their liberty of movement and liberty of breeding and feeding for his own advantages. All this is justifiable, because it is for the benefit of the keeper. Then there is the humanitarian limit—anything that results in pain without a compensating advantage is to be condemned. Any ill-treatment of an animal will prevent it from serving or benefitting its owner. You will find it all through, that where man inflicts an injury upon an animal, without a compensating advantage to the animal, it will be against his own interests. In brief, the benefit to the animal and the gain to man are identical. I would not consider the infliction of pain justifiable, unless it was an improvement to the animal. The dehorning of cattle is justifiable on many grounds. Indiscriminate dehorning would not be a desirable thing in every case. There are some conditions where it would not be a desirable act to dehorn. It is a question largely to be settled by self-interest and environment of the animals. I think in the case of dairy cattle that if the practice of dehorning results in quieter behaviour you would get a larger flow and better quality of milk, and better health in the animal. Perfect quiet and the absence of irritation are very desirable. When a lot of cattle are turned out together there are always a few timid ones, and these will often be scared and hooked by the others. This is more liable to occur when they are passing up lanes, through the gates and at the watering trough. I think the comfort of the animals is promoted by depriving them of the means of attack. In the past ages these animals were given horns that they might protect themselves, and as our method of life removes the need of defence the horns are therefore not now needed by the animals. I have seen the operation of dehorning performed on steers and a bull, but not on cows. There is no doubt it is painful while the sawing or cutting lasts, but I think this is mainly from the fright produced in the animal and not so much from the cutting of the tissue. The operation takes from nine to thirty seconds for both horns. After taking the horns off we offered the cattle some meal and all ate readily. Nine continued to feed regularly, but two did not chew their cud for a little time afterwards. In the case of two there was a slight discharge for about ten days, then the wounds healed over and there was no further trouble. In six weeks or two months the cavity becomes boned over. As to suffering after the operation, I only noticed a condition of dullness—a change of appearance in the eyes and head and ears for a day or two—nothing, however to make the hair or skin show any serious derangement of functions. If there were no greater disturbance in the health of the cows than in the case of our steers, I do not consider that there would be any falling off in the milk after the first day. I think the suffering to the animal is very slight after the horn is severed from the head.

MR. DRURY—You have given this matter considerable attention ; would you say that you would commit yourself to the practice as one desirable in the interests of dairying ? A. I would, wherever the herds of cattle in being turned out were so confined in area that they were tempted to chase each other. In my opinion the pain inflicted in the operation is not nearly equal to the discomforts inflicted on the animal from being hooked by others. In taking off the horns a great deal of suffering otherwise spread over a period of years is reduced to a sensation of pain for a moment or two. I believe there is greater pain from hooking than from dehorning. Then an animal often suffers keenly from fear of being hooked. I have known them to bellow and show great distress although there was no actual injury inflicted on the body.

Q. If the practice were allowed would you say there should be safeguards as to how and when the operation should be performed ? A. I think it would be reasonable to say that it must be performed in such a way that there will be no unnecessary pain or suffering inflicted leaving it with the performer to show that he took every precaution. The law should be framed so as to protect the animal from unnecessary pain.

Q. Have you used clippers in dehorning ? A. Yes ; I tried them on three-year-old steers. I don't think they are as well adapted for taking off the horns as a sharp, fine-toothed saw. There is more or less crushing of the part, and the healing process is not apt to be so quick as after the action of the saw.

Q. Have you ever tried caustic on the budding horns of calves ? A. No : but I have enquired from those who have and they say that there is an irritation in the head for weeks after. I am inclined to think that the sum total of suffering would be greater than simply dehorning later on. Then they are more likely to develop bunting proclivities when dehorned as calves.

MR. GIBSON—At what age and at what season of the year would you say the operation is best performed ? A. For steers, one to two years old. As to the season, the extremities of

heat and cold should be avoided. I should say from the end of March to May, and from the end of September to November. In the case of the bull we dehorned, it completely tamed him and he has shown no signs of viciousness so far since.

MR. DRURY.—When you performed this operation were you aware that you were liable to be prosecuted for cruelty? A. I recognised that the Humane Society had the right to prosecute, but I did not think they would be successful. I performed the operation for the benefit of the farmers who were making enquiries for information. I intend to dehorn some cows for the same purpose and will also try the effects of caustic.

MR. GIESON.—Have you ever heard of anyone who has tried this operation and been dissatisfied with it? A. No; neither on account of its bad effect on the animals nor bad influence upon himself, attendants or family. Then I am satisfied that they pay 25 to 30 cents more per hundred weight for dehorned cattle at Chicago owing to their freedom from hook marks and bruises. This fact alone indicates that there must be a great deal of pain inflicted upon the animals by the horns.

DR. SMITH.—Should the Government decide to allow this operation, do you think there would be a danger of it being practised without discrimination. Say, a man cutting the horns off perfectly docile cows under the supposition that they would give more milk afterwards? A. I don't think so. No one has been deterred from the operation so far on account of fear of prosecution; and I do not think that a favorable finding by the Commission would encourage a reckless extension of the practice, or its adoption by farmers without due cause.

MR. MACPHERSON.—Would you say there would be a gain of \$1 per cow from dehorning? A. I think the benefit per cow would be much more than that in the year. The additional profit in feeding steers for market is considerable owing to economy of labor. The increased gain might range from \$8 up, owing to extra quiet, saving in labor, feeding in sheds and so on. I recommend strongly the dehorning of every bull that shows the least tendency to viciousness. They are not injured at all for breeding purposes, and the increased safety of the attendants is worth more than any possible pain or harm to the animal. As a general thing self-interest will prevent a man from inflicting unnecessary pain, and I consider that the Commission would be safe in recommending that the practice be allowed to be carried on under certain restrictions.

ROBERT W. ELLIOTT, sworn, said: I am herdsman in the Dominion Experimental Farm, and performed the operation of dehorning on a number of steers. We used the clippers on two herds and the saw on all the others. The quickest time we made was nine seconds for two horns. We dehorned nine this spring and five last fall—one Jersey bull five years old, four three-year olds, four two-year olds and five yearlings. The date we dehorned last was May 13. Judging from these fourteen I would say the suffering is least in yearlings and over five years old.

MR. DRURY.—Do you think the cattle were improved in their conduct by dehorning? A. Yes, decidedly. From what I have seen I would be in favor of the practice. The bull we dehorned was dangerous to take out, and after the horns were off he would tremble when anyone went into the stall, feeling he was so helpless.

Q. Did you observe the appearance and conduct of the cattle for a few days after the operation? A. Yes; the worst ones didn't regain their appetite for about a week—three out of the fourteen. One bled considerable and lost a little in flesh. We had to stop the bleeding with a hot iron. Some of them had a discharge of matter for about two weeks.

Q. Now, having performed this operation and watched these cases, do you still say that you favor the practice and consider that if you were an owner of cattle your interests would be advanced by adopting it? A. Yes, I should think so.

AFTERNOON MEETING.

The Commission met at 2.30 the same afternoon in one of the parlors of the Russell House, for the purpose of receiving the evidence of W. C. Edwards, M.P., and Senator Read of Belleville.

WILLIAM CAMERON EDWARDS, Rockland, Ontario, sworn, said: I am a member of the House of Commons for the County of Russell. My business is that of a lumberman, but I am also largely interested in farming. We raise a good many cattle and have about 350 head now. Last autumn we dehorned 34 feeding steers, and we just shipped them a few days ago to the English market.

MR. DRURY.—What was your leading idea in doing this? A. Well, I read a good deal about it in the agricultural papers and also the trials in the old country. The thought of dehorning was at first very repulsive to me, but I have been studying the question of saving manure in the most approved method, and I came to the conclusion that the proper way to save manure was under the cattle. I therefore built a stable 30x80 and 16 feet deep, and decided to fatten a number of steers loose in it. When the building was complete I got a man to drive in the cattle, and the first thing they did was to begin to tear each other to pieces. I saw then that with the horns on, my scheme was going to be a failure. I wrote to Prof. Robertson about dehorning, and also went to Montreal and had a long consultation with several of the large cattle shippers, all of whom spoke approvingly of it. We then borrowed Prof. Robertson's tools and took the horns off on December 13. Although I was at home I did not see the operation, as I purposely avoided it. However, I questioned the man who performed it, very closely, and from all he told me and from the results following the operation, I believe it is more humane to cut the horns off a lot of steers and allow them to feed in their natural way loose, than to tie up an animal on a hard floor and keep it confined in a narrow stall for six months or more without any freedom or relaxation. The natural condition in which to keep an animal is loose. In this cold climate cattle must be housed in winter time in comparatively narrow limits, and the most natural and humane way is to let them run loose. Bumptious steers particularly would tear each other to pieces with their horns if allowed this natural freedom, and in my opinion it is a positive kindness to deprive them of these dangerous weapons.

Q. What was the effect of the operation on your steers? A. It made them as quiet as a flock of sheep. It took away all their evil nature and made them settle down to making beef. Then as to the profit of dehorning feeding steers.—They are more cheaply fed so far as labor is concerned. The manure from them is saved in the best possible way and they make a greater gain for the feed given, as there is a certain amount of food wasted in keeping up that fiery, restless spirit they show before dehorning. Generally our cattle recover from the effects of the operation very rapidly. Only two of them showed any symptoms of real sickness, and even they were soon over it.

Q. Now, Mr. Edwards, as a business man have you been satisfied with the operation? A. So much so that we have put up another building to double our operations this year. When the steer feeders of Ontario get into the way of it and feed loose in buildings such as we have erected for the purpose, it will be millions of dollars annually in the pockets of our farmers, in the saving of manure and the economy of feed and labor. Generally adopted I think it would mean a gain of ten or fifteen million dollars. I believe it is the biggest advance yet in modern agriculture.

Q. How far do you think a man has a right to do as he likes with his own property in the shape of a domestic animal? A. So far as dehorning is concerned I do not think a man would have a right to do it if the operation was of a very serious nature.

Q. Would you say that an additional value of \$5 per head warranted you in inflicting pain? A. No; I don't think that any money compensation would justify it if there was undue suffering. My view of it is this—the natural condition is to allow an animal to be loose—it never was intended that an animal should be tied up. In a wild state the horns were given to the animal as a means of defence. He is now a domestic animal, and if he uses these weapons to destroy his neighbors the proper thing, instead of tying him up in an unnatural state, is to remove the horns. This I would regard as an act of humanity. As to the amount of suffering I think it depends on the expertness with which it is done. If done properly I think it is no more than the prick of a sharp pin would be to you. There is, by far, more suffering involved in the hooking of one animal by another than there is in the operation of dehorning.

HON. ROBERT READ, Belleville, sworn, said: I am a member of the Senate of the Dominion. My chief occupation has been that of a farmer, though I have been engaged in other lines. I have been handling cattle all my life, as many as 500 at a time. I keep about forty-five dairy cows at present. I have heard the evidence of Mr. Edwards and agree largely with what he says. I have never dehorned my cattle, but I have three neighbors who have had experience that way with good results. I have seen a great deal of damage done with horns in my time; you can see the injury done almost every day. I have looked into the dehorning question pretty carefully, and I believe it would be humane to the cattle to take the horns off. I daresay I would have dehorned mine only I have been away from home a good deal. As a matter of humanity I think it is a desirable thing and should not be prohibited.

FRIDAY, JULY 8.

On Friday, July 8th, the Commissioners paid a visit to Mr. Edward's farm at Rockland, and were very favorably impressed with the system of saving manure. They also had an oppor-

tunity of seeing the bull that had been dehorned, and also of inspecting his celebrated thoroughbred stock. In conversation Mr. Edward's herdsman expressed himself as in favor of the operation for feeding steers. The pain, he believed, was not excessive, while the benefits to the cattle in being allowed to feed loose were very great.

The Commission decided to hold its next meeting at Ingersoll on Thursday, July 21st, 1892.

INGERSOLL, THURSDAY, JULY 21.

The Commission met in the Town Hall, Ingersoll, on Thursday, July 21st, for the purpose of receiving evidence from the parties opposed to the practice of dehorning. Mr. Charles Hutchinson was present, and by permission of the Chairman, questioned the witnesses :

WILLIAM STIRTON, Dereham township, Oxford county, sworn, said : I am a farmer and keep from ten to thirty head of cattle chiefly for fattening. I have been handling cattle on my own account for about eight years. This question of dehorning has been discussed a good deal in our neighborhood, and in my opinion there is no particular necessity for it. I have never had any trouble with my cattle to amount to anything. Sometimes a few scratches are made by horns. I have handled a few dehorned cattle and I don't see any great advantage over the horned ones. The horns are handy to tell the age by, and without the horns an old cow may be put off for a young one. I am guided by the horns in buying. My belief is that the operation is accompanied by great pain. I have not seen the operation, but I have seen the animals afterwards when the sore was healing up. I saw some last winter two weeks after the operation. They were discharging from the head and the matter was running down the cheek. Then there was one that appeared to be stiff and to be hanging behind the rest. There were about ten altogether, and five or six of them seemed to be pretty bad. I think there is a good deal of suffering while the head is healing up. I can't see any great advantage in dehorning, as we have never had any serious accidents from the horns. I am opposed to the practice.

Mr. HUTCHINSON.—From your knowledge of cattle generally is there any absolute necessity for cutting off the horns, apart from a pecuniary benefit ? A. I would not think so.

Q. Have you seen anything that could not be avoided by knobbing ? A. No ; I have not seen many that needed knobbing.

Q. Could those that are a little dangerous be rendered harmless by knobbing ? A. Yes, I think so.

Q. Suppose this practice were legalised do you think there would be danger to the animals from inexperienced people doing the work ? A. Well, I would not like to say—one might do it as well as another for all I know. If I were going to do it I would have it done in the best way I knew how. There are lots of men would just take the horns off and not look after the animals properly.

Q. Would this not expose the cattle to a great deal of cruelty ? A. Yes, I should think it would. If this has got to be done it ought to be by men who understand it and have the right tools for the job.

Mr. DRURY.—What is the practice in regard to castration ? A. Well, there are generally some men in each neighborhood who make a specialty of it.

Q. What is the general character of the men who have had their cattle dehorned ? A. They are a pretty good class of men.

Mr. HUTCHINSON.—Isn't it a question of dollars and cents—whether it is profitable or unprofitable to cut off the horns ? (No answer).

Q. What is the object of your neighbors in favoring this practice ? A. I think they do it to yard closer and to save pain. The cattle must have been hooked, or they wanted to keep them closer, or something of that kind.

Mr. GLENDINNING.—Do you know of any man who had the horns taken off and who afterwards regrettated it ? A. Well, I have known some who had the horns taken off a few and left them on the remainder.

JOHN MITCHELL, Dereham township, sworn, said : I am a farmer and keep about thirty head of cattle. I never saw the operation of dehorning, and I have no intention of cutting the horns off my cattle. I never lost any animal from hooking except a little pig that was ripped. Whenever I found cows a little vicious I cut off the tips of their horns. I do not see the necessity for the dehorning business.

Mr. DRURY.—Do you think that man is justified in inflicting pain for a pecuniary advantage ? A. No.

Q. Do you cut lamb's tails? A. Yes, I think it improves their appearance and adds to their comfort.

Q. Suppose you can increase the value of an animal \$10 or \$20, do you think that would be justifiable? A. No, I think not, except it increases the comfort of the animal's themselves.

Q. Have you known of injuries inflicted by horns? A. I have heard of them, but I have never seen much. If it were a comfort to the animal to have its horns off I think it would be all right to do it. It would be justifiable to take the horns off a vicious animal, but I don't see the necessity for taking them off nice, quiet, innocent cows.

Mr. HUTCHINSON.—Is cutting the horns off cows necessary to fit them for the use for which they are intended—the giving of milk, for instance? A. I think not.

Q. Is it necessary in the case of steers? A. I have never seen such necessity.

Q. Castration you regard as necessary? A. Yes.

Q. And that makes a material and important difference? A. Yes.

MURRAY SMITH, North Dorchester, sworn, said: I have been engaged in farming for the past twenty-eight years, and keep about 30 head of cattle, chiefly for dairying. A vicious bull might have its horns cut off, but I think the operation as a general thing ought not to be permitted. I have had a horse killed by a bull, but outside of that I do not recollect any serious injury having been done by horns. My practice is to stable and chain up at night, letting the cattle out in the yard in the daytime or the pasture field in summer. There are usually one or two bosses in every herd, and the rest keep away from them. I have used knobs to guard against that. I dehorned a bull last winter. We put chains round him in three places and twisted them up tight to secure him well. We took the horns off close to the head and they were two and a half inches through. It took about three-quarters of a minute for the two horns. I should say there was about a pint of blood afterwards. He seemed stupid for a couple of weeks afterwards. It was about three months before the head was fully healed up. There was a slight discharge from one horn. Judging from that operation I would not have the horns taken off my cows.

Mr. DRURY.—Now, is a man justified in inflicting pain upon a dumb animal simply to increase its money value? A. I don't think so.

Q. What do you consider justifies the infliction of pain? A. Necessity, for one thing.

Q. Why do you dock lamb's tails? A. They look better and are more valuable, but there is a big difference between cutting the tails off lambs and cutting the horns off cattle.

Mr. HUTCHINSON.—Would you be satisfied to leave each case to stand upon its own merits, so that where unnecessary cruelty was committed the person would be subject to the law? A. I think so. I had a necessity for cutting the horns off my bull, and I'd be quite willing to leave it to anybody.

Q. Now, as to cutting lamb's tails, why do you do that? A. Because they look better with them off.

Q. Is there not a necessity for it? A. Not as far as I can see, but it makes them look better.

Q. Then why not cut off the horns? A. Because that is very painful.

Q. But doesn't it also hurt the sheep? A. Not so much.

Q. Now, the principle laid down by the best authorities is that the pain must be to fit animals for the purpose for which they were intended. Is it in your opinion necessary to cut the horns off cows to fit them for the purposes for which they were intended? A. No, I don't think it benefits the cow.

FOSTER WILSON, Dereham township, sworn, said: I am engaged in farming and have from 60 to 70 steers at present. I buy them at about two years old and keep them for three or four months. I have been in the business about 9 or 10 years. I have heard a good deal about dehorning but I am not in favor of it as I consider it disfigures the animal. It seems to me to be a whim people have got into their heads, and I think the practice will die out in time. A nice pair of horns often help to sell an animal. I have not seen a great deal of loss caused by horns—a few hair scratches—that is about all.

Mr. DRURY.—Now, witnesses say that taking the average life of a herd there is more suffering inflicted by the horns than is involved in the operation of removing them. If they are correct, would that be a justification—that is, on grounds of humanity? A. I don't think it would be. I don't think it's right or that anything justifies taking the horns off.

Q. Have you seen the operation? A. No.

Q. If it could be performed without pain to the animal would you favor it? A. No; I prefer the horns as I think they look better. My neighbors have not had the horns taken off their cattle. I think the law ought to prohibit the practice.

Mr. GLENDINNING—Why do you castrate sheep and hogs—to increase their value? A. Yes; to make them more profitable. You can sell a ram or a boar pig, but you can't get as

much for them. I believe it was intended that they should be castrated, but I don't think it was intended that horns should be cut off.

Mr. HUTCHINSON—It is necessary to castrate them to fit them for the purpose for which they were intended—that is, for human food ? A. Yes.

Q. It is not necessary to cut the horns off in order to fit cattle for the purpose which they were intended ? A. No ; I think not.

ADAM GORDON, township of North Oxford, sworn, said : I am engaged in farming and cattle raising. I have at present 18 cows and some young cattle. I have heard a good deal about dehorning. I do not consider it either justifiable or necessary. I have not seen the operation. I have never had a case of loss from hooking. I follow the usual method of turning the cattle out in the daytime and stabling at night. I think cattle look better with the horns off, and that dehorning ought to be stopped.

Mr. DRURY—Has your mind been influenced by the idea that there is a good deal of suffering in the operation ? A. I think it is not necessary and that it is cruel.

Mr. HUTCHINSON—Would you be satisfied to leave the law as it is now, so that each case shall stand on its own merits ? A. Yes.

Q. Of course you understand that the law would allow the excuse in the case of a vicious bull ? A. If there is a vicious animal I think it should be kept in the stall, and butchered if necessary, instead of cutting the horns off.

JOHN HENDERSON, township of North Oxford, sworn, said : I have been raising cattle for the past twenty-five years, chiefly for dairy purposes. I have 15 cows now. They are not dehorned and I don't intend that they shall be. I am against it. I consider that as the Lord made them that way they should be left so. We get these things to use—not to abuse.

Q. Then how do you do with your male animals ? A. Well, when the lambs are three days old I cut their tails because they would get so dirty there would be no pleasure with them. I castrate because I believe that is a work of necessity to keep these animals within reasonable bounds.

Q. You consider dehorning to be unnecessary ? A. Yes.

Q. Suppose the horns could be taken off simply by unhooking, without causing any pain, do you think it would be right then ? A. No, I think not. We get them naturally and we ought not to interfere with the order of nature unless it is absolutely necessary. I think the practice should be stopped. It depends largely on how cattle are used whether they are savage or not. You can train an animal by kind treatment. Even in the case of a vicious animal I don't think it is proper to take the horns off. It would be better to fetter it in the stable and send it to market.

JAMES RUDDICK, township of North Oxford, sworn, said : I am engaged in dairying and keep about thirty head of cattle. I have been on a farm all my life. I have not seen any dehorning, but I am opposed to it. I think there is no necessity for it. I think it is a very painful operation. If there were no great pain it might be all right.

Q. Would you say that a money consideration would be a justification for the infliction of pain ? A. Well, an increased value would be a justification if the suffering was not too great.

Q. Do you think the law should prohibit the practice ? A. Yes ; except in the case of a vicious animal. No one in our neighborhood has dehorned his cattle.

To Mr. HUTCHINSON—I would be satisfied to have the law left as it is and if there is unnecessary cruelty that the person should be punished.

JOSEPH CAWTHORP, Thamesford, sworn, said : I farm a little and have from 10 to 15 head ; my principal business is milling. I have never seen any dehorning. I am opposed to it, as I believe it is cruelty to animals. I have known cattle to get the shell knocked off the horn and they suffer a good deal from that.

Q. If you saw the operation and did not notice any great indications of pain, the animal starting to eat immediately afterwards, would you still consider it an act of great cruelty ? A. I hardly think that these animals would go out and eat hay after such an operation, but I think they suffer all the same. I don't think a money consideration is a sufficient reason. Let the people who want hornless animals breed polled cattle.

Mr. HUTCHINSON—You agree that every case that comes before the courts should stand on its own merits—you do not desire any change in the present law ? A. No.

Mr. DRURY—if it were proved that there is a great deal of suffering caused by the horns, do you consider that as an act of humanity to the animal it would be a justification to take the horns off ? A. I have not seen a great deal of suffering from the horns.

Q. But suppose that a good many others claim there is ? A. Well, I don't think that would

be a justification. Horns were put there and I consider they ought to be allowed to stay. You can see the marrow exposed when the horn is broken showing that it is very painful.

Q. If it were shown that the cows came back to their usual flow of milk after the first day, what would you say? A. I don't think they would come back so soon, and even so, it would show that they suffered that day.

THOMAS HOGG, township of North Oxford, sworn, said: I am engaged in farming and keep from 30 to 40 head of cattle altogether.

Mr. DRURY—Do you consider that dehorning is a practice attended with beneficial results to the owner? A. Well, I have had one or two animals where I think it would be a good thing, but as a rule I don't think it is proper. I tipped the horns of one or two animals but it didn't prevent them from hooking—it only prevented them from making a deep gore.

Q. You have not dehorned any cattle? A. No; I would not do it even if it were lawful.

Q. If it were a comparatively painless operation would you do it? A. Yes; I might do it then.

Q. You would prefer the cattle without horns? A. Yes; I can't see that they serve any purpose. I am opposed to dehorning except in the case of vicious animals. I have not performed the operation nor seen it performed. I have cut the horn right up to the quick, drawing blood a little. That does not stop them from fighting, but they can't inflict so much pain upon each other.

Q. If you saw the operation and did not notice the same indications of suffering as in the case of a broken horn, would it change your views somewhat? A. Yes, I think it would.

Q. Then if the pain was not excessive and the gain was important, do you think that the financial side should be taken into consideration? A. Yes; I think it should be.

To Mr. HUTCHINSON—I would be satisfied to allow the law to remain as at present.

WILLIAM W. SUTHERLAND, township of East Nissouri, Oxford county, sworn, said: I am engaged in farming and raise cattle. I am in favor of dehorning vicious animals. I think it ought to be left an open question with farmers whether they should dehorn their cattle or not.

Q. Would you say that the amount of suffering caused by the horns might be as great as in the operation of taking them off? A. Yes; I think there is more pain from one animal goring another than there would be in dehorning. I have not seen the operation but I don't think it would be as painful as castrating.

Q. Have you ever made a study of the horn? A. Yes, a little. The best place to take it off is at the root, because there is only one nerve there which branches out higher up. We have nothing to prove clearly the amount of suffering involved, but from what I have heard I don't think the acute pain lasts more than a few seconds. It is much more painful to have horns knocked off, because a large surface of sensitive nerve is exposed.

EDWIN CASSWELL, Ingersoll, being sworn said: I have been president and vice-president of the Western Dairymen's Association, and am engaged in the cheese business. I was a dairy farmer in the county of Oxford for five years, and kept from 20 to 30 head of cattle. I have not seen any necessity for dehorning and I have had no serious injury to stock from horns.

Q. Do you consider that dehorning is justifiable? A. From my standpoint I would say no. Of course I have heard a great deal about it from such men as Messrs. Hopkins, Brown, Facey and York, and I can't understand how they can feel as they do about this matter. They are men whose views are worth considering, but in this case they are acting entirely in opposition to my judgment. I have never seen a dehorned animal and I hope I never shall.

Q. They say dehorning secures greater quiet in a herd, if that were true would you expect good results to follow? A. If my cattle were unruly, and by dehorning they were made ruly, that might be an advantage, but my cattle were not unruly. I could take you to two men, one of them when he goes into his yard the cattle all come to him, and the other, they get away as far as they can from him. You can get quietness among cattle by always treating them kindly. Men like Lewis, who come to our conventions, say that kindness is 25 per cent. of the product of the cow.

Q. Take the case where 16 steers were turned into an open shed and fed loose at a trough, and they treated each other like sheep—if it created that change would you say it was desirable? A. Yes, it would be a benefit to have cattle quieter.

Q. You have never had unruly cattle? A. Yes, there is always the boss cow. I have seen cases where she would stand and keep the others from the drinking trough, but after awhile she gets tired and goes away.

Q. Do you think that no monetary consideration should enter into this question? A. I do in the case of dairy cattle. My opinion is that it is an unkind and cruel practice, but I would

not prohibit it in all cases, because a bull might be vicious, and it would be a pity to do away with it simply on that account. If it is to be done at all it should be done by men of some experience.

Q. Now, in the neighborhood of Harrietsville farmers say they would pay \$50 for the privilege of dehorning, owing to its advantages, would you consider that any justification? A. I consider that a farmer who raises cattle does it for money, and if he can do anything to advance the value of his product without giving unnecessary pain he is warranted in doing it.

Q. Some say that no amount of money compensates for the infliction of pain. Your opinion, I understand, is that if the financial gain is in proportion to the pain inflicted the practice would be justifiable? A. I would say that if you had a valuable animal that could not be kept without it you might dehorn him, but in the case of ordinary cattle I think it would be better to knock them on the head rather than go to cutting off horns.

To Mr. HUTCHINSON—I agree that there can be no justification for the infliction of pain, unless it is to better fit animals for the purpose for which they were intended. Cattle have been used from generation to generation with their horns on, and I see no pressing necessity now for their removal. I cannot see where the benefit comes in, and I may say again that I cannot understand sensible men like Mr. York and Hopkins taking up such a practice. I would be in favor of leaving the law as it is at present.



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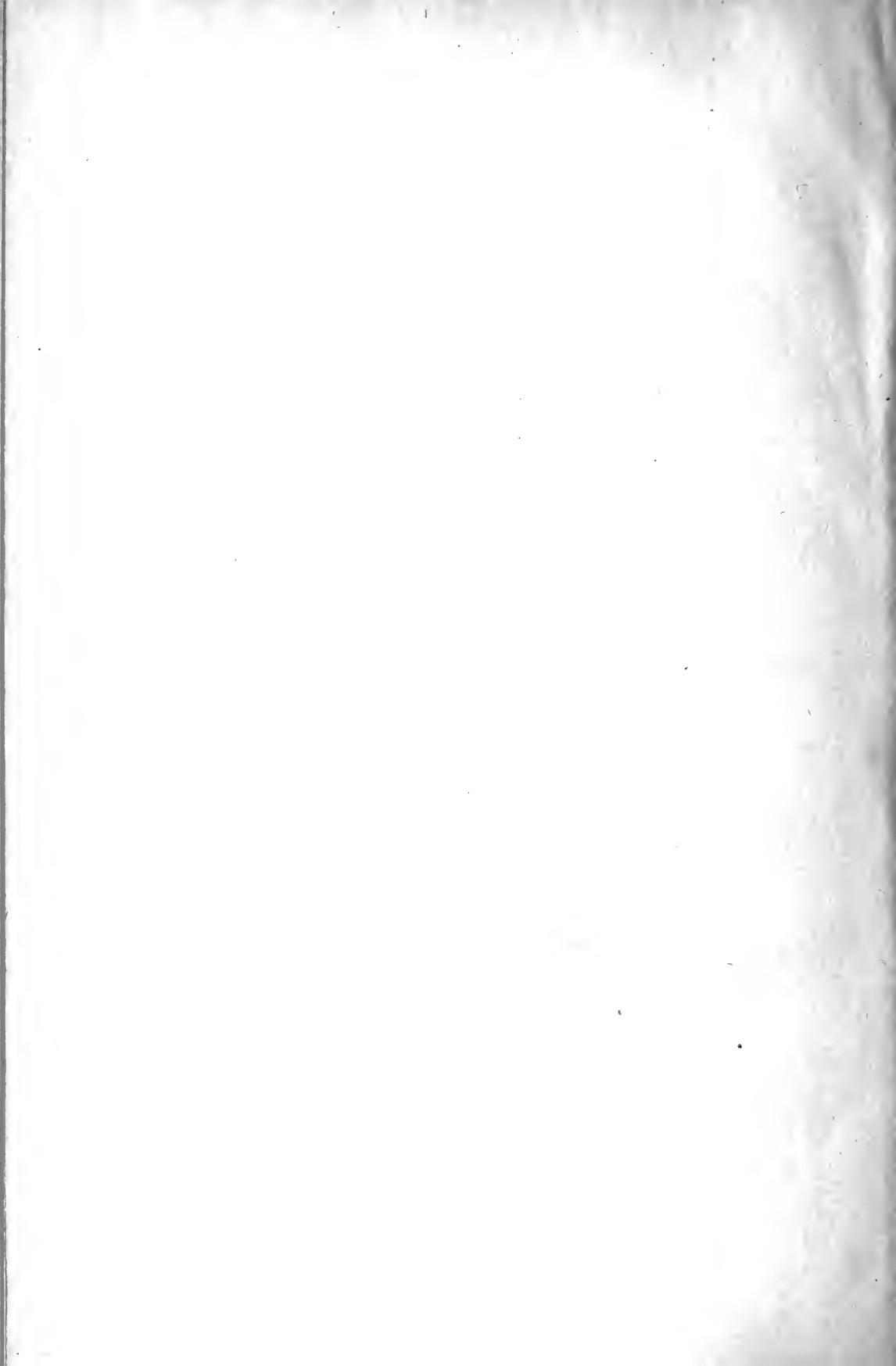
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